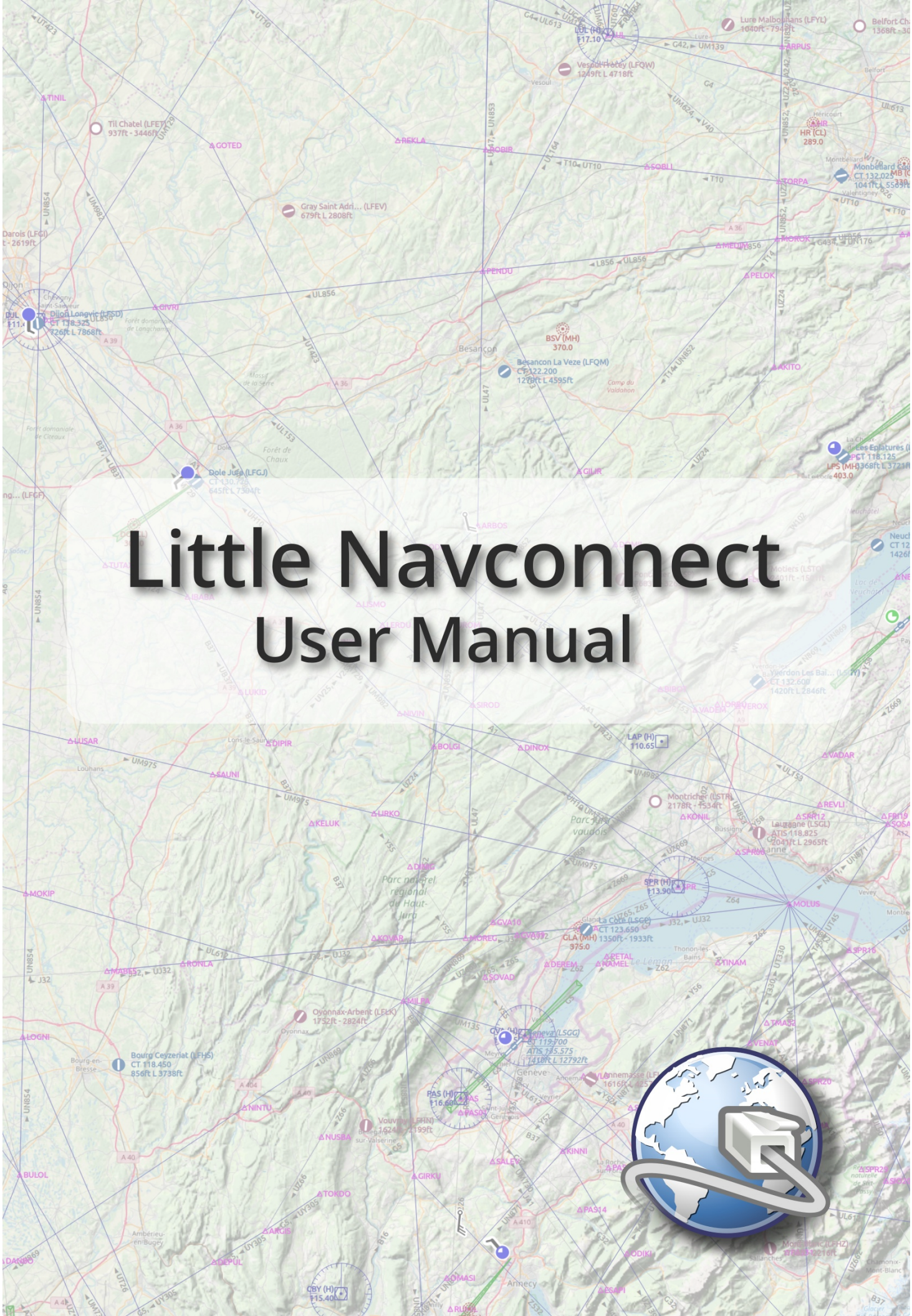

# Little Navconnect

## User Manual

# Little Navconnect User Manual

*Little Navconnect* is a small free open source application that acts as an agent connecting *Little Navmap* with a flight simulator like FSX, Prepar3D, Microsoft Flight Simulator 2020 and X-Plane.

**Do not use this program for real world navigation.**

For versions 3.0. Last update on Jul 31, 2024.

More about my projects at www.littlenavmap.org [https://www.littlenavmap.org]. Support forum at AVSIM [https://www.avsim.com/forums/forum/780-little-navmap-little-navconnect-little-logbook-support-forum/]. The sources of this manual are available on GitHub [https://github.com/albar965/littlenavconnect-manual].

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This manual was created using Sphinx [https://www.sphinx-doc.org/] and the Read the Docs Sphinx Theme [https://sphinx-rtd-theme.readthedocs.io/en/latest/index.html]. PDF and MOBI formats converted using Calibre [https://calibre-ebook.com/]

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

AVSIM [https://www.avsim.com], SimOuthouse [http://www.sim-outhouse.com], FSDeveloper.com [https://www.fsdeveloper.com].

# 2. Donations

**Donate to show your appreciation if you like my programs.**

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

[https://albar965.github.io/donate.html]

# 3. Start

*Little Navconnect* comes with the downloaded archive of *Little Navmap* and is also added to the start menu when installing *Little Navmap* using a Windows installation program. See the *Little Navmap* user manual for more information about installation.

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

## 3.1. General

*Little Navconnect* is bundled with the *Little Navmap* download. Do not try to download it separately.

*Little Navconnect* acts as an agent that connects Little Navmap [https://albar965.github.io/littlenavmap.html] 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.

## 3.2. Windows Builds

There are two builds of *Little Navmap* and *Little Navconnect* for Windows available:

- **Windows 64-bit:** For MSFS and all X-Plane versions.
- **Windows 32-bit:** For FSX and Prepar3D.

Note that *Little Navmap* and all related programs are inter-operable across the network (*Little Navmap* and *Little Navconnect*) as well as the X-Plane plugin (*Little Navmap*, *Little Navconnect* and *Little Xpconnect*).

You can see the Windows build type in the about dialog and in the window title bar (`64-bit` or `32-bit`).

## 3.3. Installation

### 3.3.1. Windows

*Little Navconnect* is bundled with the *Little Navmap* downloads. Do not try to download it separately.

See the installation instructions in the Little Navmap User Manual - Installation [https://www.littlenavmap.org/manuals/littlenavmap/release/latest/en/INSTALLATION.html].

### 3.3.2. macOS

Extract the *Little Navmap* ZIP file and copy the `Little Navconnect` app to `Applications` or any other folder. You also start the program from the extracted folder.

### 3.3.3. Linux

Extract the *Little Navmap* tar archive to any place and run the executable `littlenavconnect` file to start the program from a terminal:

```
./littlenavconnect
```

Most Linux file managers will start the program if double-clicked.

### 3.3.4. 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. 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.

# 4. Usage

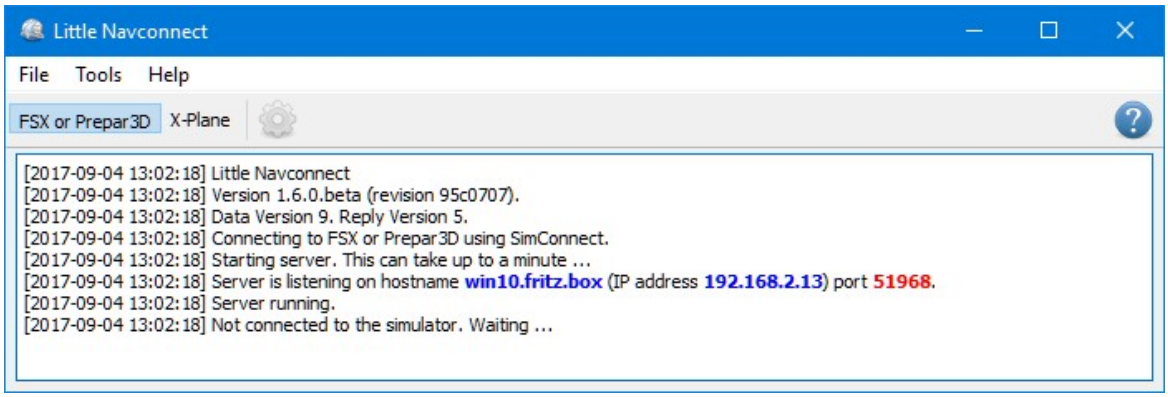
You will receive an error message if the protocol of *Little Navmap*, *Little Navconnect* or *Little Xpconnect* does not match. Make sure to use the latest versions of all programs or use the ones included in the *Little Navmap* download archive.

## 4.1. 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 host name.

The program will automatically connect to the flight simulator using the included SimConnect. 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 host names 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.




*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.

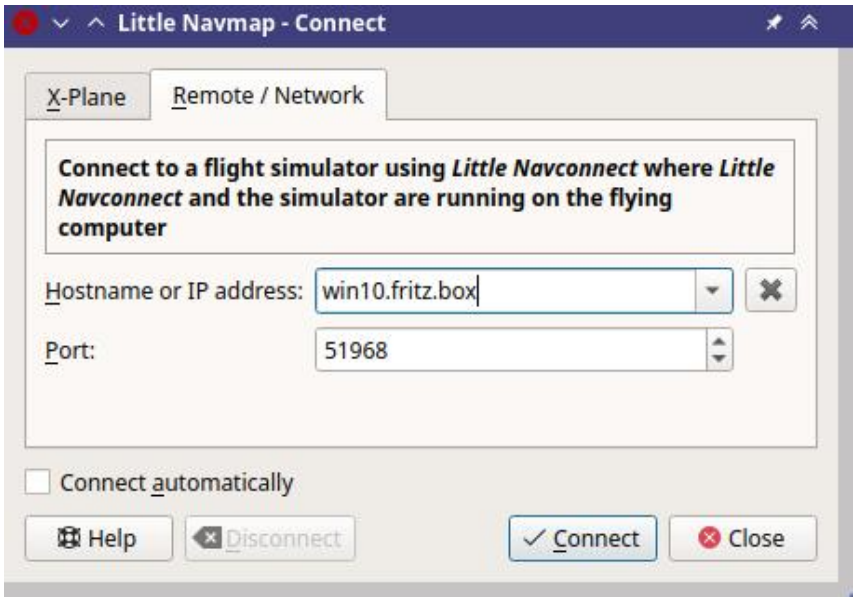
Change the port in the `Options` dialog if you see an error message like shown below:

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

## 4.2. Remote Computer

Also called client or networked 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`.




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

1. Select `Connect to a remote Flight Simulator`.
2. Add the value for host name or the IP address printed by *Little Navconnect*.
3. Check the value for the port. `51968` is the default value and does not need to be changed usually.
4. 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

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

# 5. Menu and Options

## 5.1. File Menu

### 5.1.1. Quit

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

## 5.2. Tools Menu

### 5.2.1. FSX or Prepar3D, MSFS or X-Plane

Selects the simulator connection. These functions are also available on the toolbar. The menu items depend on operating system and program build.

You will see `MSFS` and `X-Plane` for the Windows 64-bit build of *Little Navconnect*. `FSX or Prepar3D` and `X-Plane` are shown for the 32-bit build of *Little Navconnect*.

These menu items are not shown on Linux and macOS since the only connection option is X-Plane.

### 5.2.2. Reset Messages

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

### 5.2.3. Options

Opens the options dialog which allows to adjust connection settings.

See chapter Options for more information.

## 5.3. Window Menu

### 5.3.1. Minimize to System Tray

Allows to close the main window but keeps the program running in the system tray, if enabled.

`Minimize to System Tray` enabled:

> A message window will be shown if the close button in the window frame is clicked. The main window is closed and the program continues to run in the system tray. Log messages are shown in the tooltip of the tray icon.
>
> Note that the functions Quit in the main menu and Quit in the tray icon context menu still terminate *Little Navconnect* in the usual way.

`Minimize to System Tray` disabled:

> The program terminates if the close button in the window frame is clicked.

The tray icon is visible if supported by the operating system and one of the options `Minimize to System Tray` or `Start minimized to System Tray` is enabled.

You can click on the system tray icon of *Little Navconnect* in the Windows taskbar or other operating system toolbars to restore the main window.

*Little Navconnect* will show the main window again on next startup.

See Tray Icon for more information.

#### 5.3.2. Start minimized to System Tray

Starts *Little Navconnect* without showing the main window. The program shows a system tray icon.

You can click on the system tray icon of *Little Navconnect* in the toolbar to restore the main window. Chapter Tray Icon gives more information.

#### 5.3.3. Toolbar

Shows or hides the toolbar on the main window.

## 5.4. Help Menu

#### 5.4.1. User Manual (Online)

Shows the online help in the default web browser.

#### 5.4.2. User Manual (Offline, PDF)

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

#### 5.4.3. 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.

#### 5.4.4. About Qt

Information about the Qt application framework [https://www.qt.io] that is used by *Little Navconnect*.

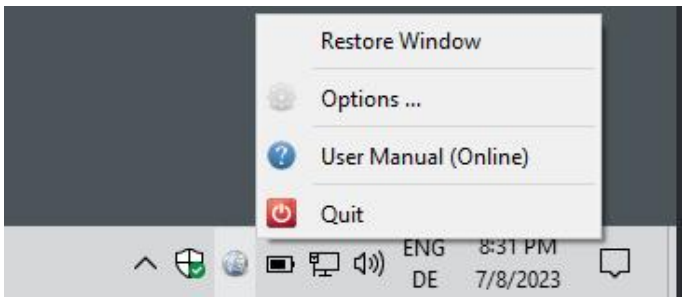
# 6. Tray Icon

The tray icon in the Windows taskbar or other operating system toolbars is visible if supported by the operating system and one of the options `Minimize to System Tray` or `Start minimized to System Tray` is enabled.

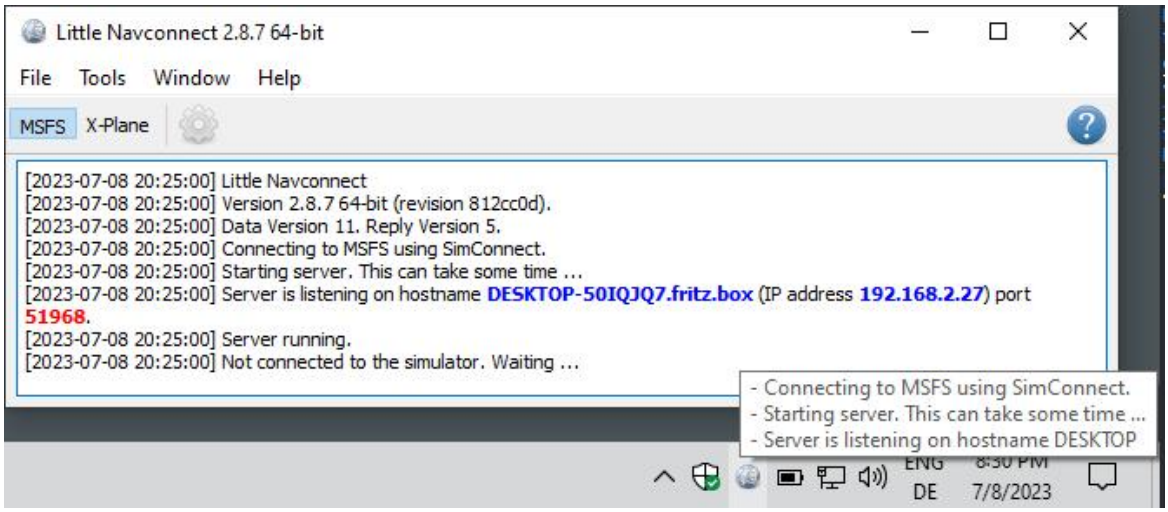
It allows to run *Little Navconnect* without main window.

**The following actions are available on the system tray icon:**

- Left mouse click: Toggles the visibility of the main window.
- Right mouse click: Shows the context menu.
- Tooltip: Hovering the mouse above the tray icon shows a small tooltip window with the last messages from the main window.




*Little Navconnect* taskbar tray icon on Windows with the context menu after right click. The main window is hidden.




*Little Navconnect* tray icon on Windows taskbar with tooltip showing log messages and the main window visible.

## 6.1. Context Menu

### 6.1.1. Restore Window

Opens the main window again. This is the same as a single click on the icon.

### 6.1.2. Options

Opens the options dialog which allows to adjust connection settings.

See chapter Options for more information.

### 6.1.3. User Manual (Online)

Shows the online help in the default web browser.

### 6.1.4. Quit

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

# 7. Options

The `Options` dialog has the following settings:

- `Update Time Interval`: Allowed range is 50 milliseconds up to 5 seconds. *Little Navconnect* fetches data from the 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.

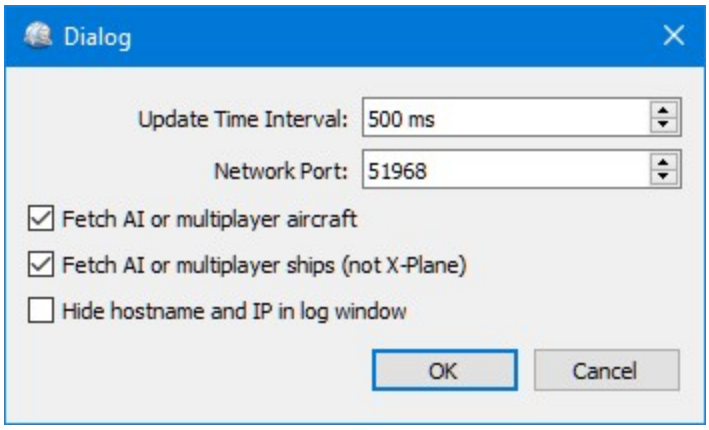
- `Network Port`: This can normally be left at default. Change this value only if another application occupies this port and you get an error message like shown below when starting *Little Navconnect*:

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

- `AI fetch radius`: Changes the radius around the user aircraft that is used to include AI or multiplayer aircraft. Using higher values with a lot of AI or multiplayer aircraft can cause stutters in the simulator. The unit is always nautical miles (1 NM equals to 1.852 km). Note that FSX, P3D and MSFS allow a maximum of 105 NM.

- `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 host name and IP in log window`: Check this option to disable printing of host name and IP address on startup. This can be useful for streaming sessions where *Little Navconnect* window is visible to others.




*Little Navconnect* Options Dialog with default settings.

# 8. Command Line Options

Several command line options are available.

Start *Little Navmap* with the help option `littlenavconnect.exe -h` (Windows), `"Little Navmap.app/Contents/MacOS/littlenavconnect" -h` (macOS) or `./littlenavconnect -h` (Linux) to get more information on the terminal or the command line.

Note that paths or files containing spaces or special characters have to be put in double quotes `"`.

Important

The replay and whazzup options are mostly used for debugging and testing. Use these at your own risk.

## 8.1. Options

Both short and long options are available.

`-h, --help`

Displays help on commandline options.

`--help-all`

Displays help including Qt specific options.

`-v, --version`

Displays version information.

`-s, --save-replay <file>`

Save replay data to <file>.

`-l, --load-replay <file>`

Load replay data from <file>.

`-r, --replay-speed <speed>`

Use speed factor <speed> for replay.

`-w, --write-whazzup <file>`

Update whazzup file <file> using VATSIM format during replay.

`-z, --write-whazzup-speed <seconds>`

Update whazzup file every <seconds> during replay.

`-g, --replay-gui`

Show replay menu items.

`-q, --quit`

Quit an already running instance.

# 9. Appendix

## 9.1. 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.

## 9.2. Files

### 9.2.1. Windows

Log files of *Little Navconnect* for Windows 10 or Windows 11 are typically stored in the directory:

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

The program keeps two log files and rotates these depending on size. Therefore, you can find up to two log files `abarthel-little_navconnect.log` and `abarthel-little_navconnect.log.1`.

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.

### 9.2.2. 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.

# 10. License

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