OpusMSFS

Flight Simulator Interface for MSFS
Product Overview

January 23, 2024

OpusMSFS the Flight Simulator Interface for MSFS includes,

- **Live View** for synchronized views, aircraft status, weather and cloud formations on multi-screen networks allowing one or more client MSFS systems with a MSFS/MSFS server. Ultra high performance IPC communications between networked systems.
- **Weather Overview/Locator** can be used to either locate specific weather conditions on the map area that match your specified criteria, or obtain a Weather Overview of the general weather conditions.
- **Flight Planning** can be performed with or without the sim running. You can automatically import the current sim flight plan or manually import/create your flight plan with the addition of automatic/manual SID and STAR selection and custom user waypoints. Flight plan points that are suspected to be erroneous are highlighted in red and the **Auto Correct Errors** option simplifies the removal of all suspect points from the flight plan.
- **In-Flight Moving Map** in satellite, terrain, or street map format superimposed with **Live Traffic**.
- **Landing Analysis** with Popup window, Spy messages and user logging.
- **Flight Capture and Replay** feature which can automatically capture the final approach and landing phase of your flight. Alternatively, you may use the 'Start' and 'Stop' Capture buttons within the dialog to capture any phase of your flight.
- **Shortcut Controls** enable you to assign joystick button and keyboard keys to common actions or controls within the SERVER program.
- **GPS Simulator Interface** for navigation packages such as SkyDemon® and ForeFlight® GDL90 WIFI (iPad) interface.
- **ButtKicker**® Gamer 2 (or similar audio controlled) vibration device interface for added vibrational feedback.
- **FSC 737-TQ** Throttle Quadrant (motorised and unmotorised) driver.
- **CPFlight** MCP and EFIS (X2) panel support.

Product Overview

On standalone systems **OpusMSFS** incorporates the **Live Weather Overview and Locator** providing overview maps of weather conditions and a search facility so that you can locate weather matching your criteria. Features also included are a moving map with traffic, **Landing Analysis**, **Replay** function, GPS output, ButtKicker, FSC 737-TQ and CPFlight interface options.

In addition,

On networked systems irrespective of the size and complexity of your system, whether your system consists of a main 'flying' PC with a single networked laptop client, or a more elaborate multi-computer networked system; the **Live View** interface, with its **ultra high-performance IPC communications**, unique **Client Side Smoothing** software, and perfect synchronization of aircraft status and weather, will provide you with the highest possible networking performance. Whether you simply want an additional display to provide further scenic or external view options, or wish to create a multi-screened panorama for your simulator experience, **Live View** offers you the ideal hassle free user-friendly solution.

You can have a mixture of MSFS, P3D and FSX based server and clients, for MSFS run OpusMSFS; for P3D/FSX you will have to purchase and run OpusFSI_v6 (P3D only) or OpusFSI_v5 (for P3D/FSX).

Your main 'flying' MSFS (or P3D/FSX) server is the machine through which you control the aircraft. The networked client MSFS (or P3D/FSX using OpusFSI_v6/5) systems are synchronised to the server through multiple ultra high-performance IPC links, the client systems are used primarily as view controllers. The networked systems allow you to create a multi-screened simulator system without placing the full workload and burden on your main system.

From this set up it therefore follows that all in-cockpit or instrument panel views used to control the aircraft must be displayed on the main server. All other views (scenic or external) can be offloaded onto the client systems. You can create wide panoramic vistas this way, or additional external aircraft views, without draining the resources on your main system or degrading its performance.

N.B. In order to see the full synchronized effects of Live View you must save a default flight with all engines running on each client system to ensure the aircraft is powered up and ready to fly.

On networked systems, you must install **OpusMSFS** on each of your client computer systems (laptops or PCs), along with any scenery and airport addon packages you wish to use. If you wish to display external aircraft views on the client computers you will need to install the sim and all relevant aircraft addons. The **OpusMSFS** software does not need to be licensed on the client systems, the purchased license is only required on your main 'flying' server system. Therefore, you may either copy or install the **OpusMSFS** software on any number of client systems, the CLIENT program that you will run on the client computers does not check for any licensing information. It simply connects to and receives all necessary data from your main 'flying' server system.

OpusMSFS Server for Standalone or Networked Systems

Live View

With **Live View**, Opus Software have used their 37 year experience of developing high-performance real-time networked telemetry and data acquisition systems, to provide the networking software you need to create your multi-screened experience for your flight simulator. No matter what complexity of system you intend to create, **Live View** will provide the optimum and smoothest solution.
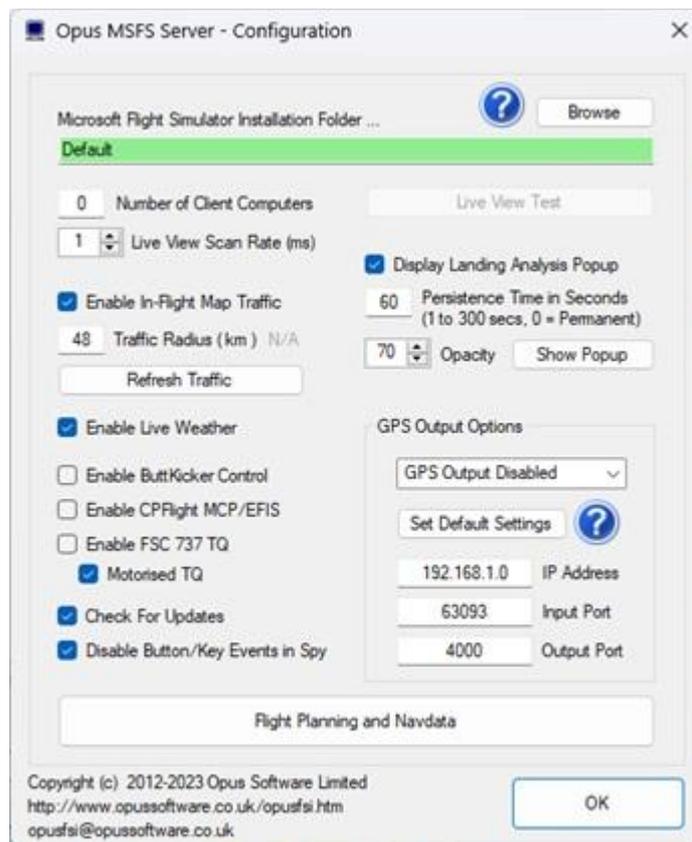
OpusMSFS Server Configuration

The configuration of the **Live View** system is simple to the extreme, just tell the main 'flying' server how many **Live View** clients you wish to support, and configure the server's computer name or IP address into each of the client systems, and away you go. You can sit back and watch your client systems connect and start communicating with the server.

Spy buttons help you monitor the activity over all the networked links, or monitor the overall activity and operation of the **SERVER** and **CLIENT** programs.

- **Live View** synchronizes the aircraft's current position, attitude, landing gear, wheel movement, lighting, ailerons, elevator, rudder, flaps, spoilers (speed brakes), engine throttles and reversers**.**
- **Live View** synchronizes the simulator's date and time, with either weather themes or real time weather updates for the aircraft's surrounding area.
- **Live View** employs and optimizes multiple dedicated ultra high-performance network IPC communication links to provide the highest level of performance and the smoothest possible operation.
- **Live View** requires minimal set up and configuration to get up and running.

Live View Multi-Screen Networked Displays with CPFlight MCP and EFIS Panel drivers

With **Live View** you can easily create that multi-screened display experience for your MSFS (or P3D/FSX using OpusFSI_v6/5) server and MSFS (or P3D/FSX using OpusFSI_v6/5) client system or manage your multi-screened cockpit. The system can be as simple or complex as you desire. The multiple screens can be used to display any variety of cockpit 'out of the window' or external views, including the creation of panoramic displays.

Weather Overview and Locator

Weather Overview and Locator provides overview maps of weather conditions and a search facility so that you can locate weather matching your criteria.
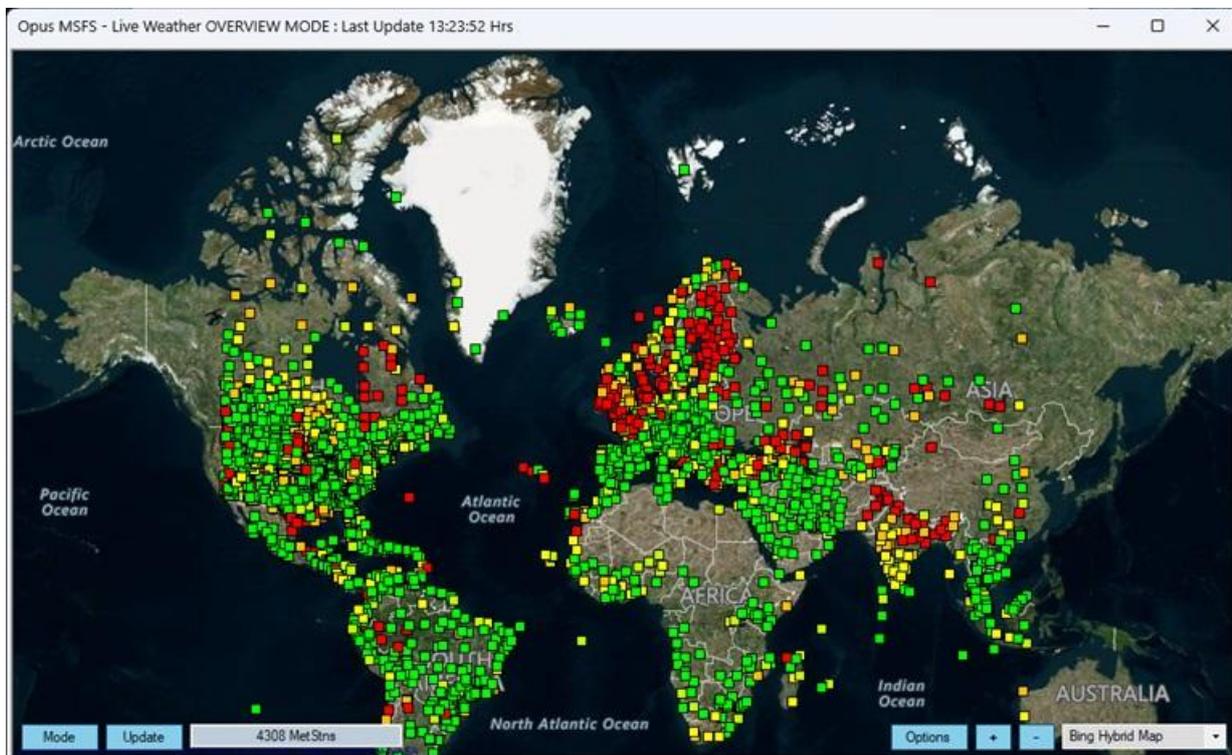
This is very useful for locating any weather you are interested in globally, or viewing a simple overview of the weather in a specific region of the world.

The weather criteria may be good or bad, based on some very simple user specified weather options. General weather conditions are depicted on the map using coloured dots to indicate good (green), moderately good (green yellow), moderate (yellow), moderately poor (orange), and poor (red) surface conditions.

Flight Planning

OpusMSFS can be activated before running the simulator so that the flight plan can be defined ready for use. Alternatively, define and load the OpusMSFS flight plan at any time before flight. OpusMSFS will automatically import the current sim flight plan if you select the **Auto Import Current MSFS PLN Flight Plan** checkbox option or you can import it manually via the **Import Current MSFS PLN Flight Plan** button. However if you wish to manually import, edit, or enter and process a flight plan then you can do it via the Flight Plan Options dialog.
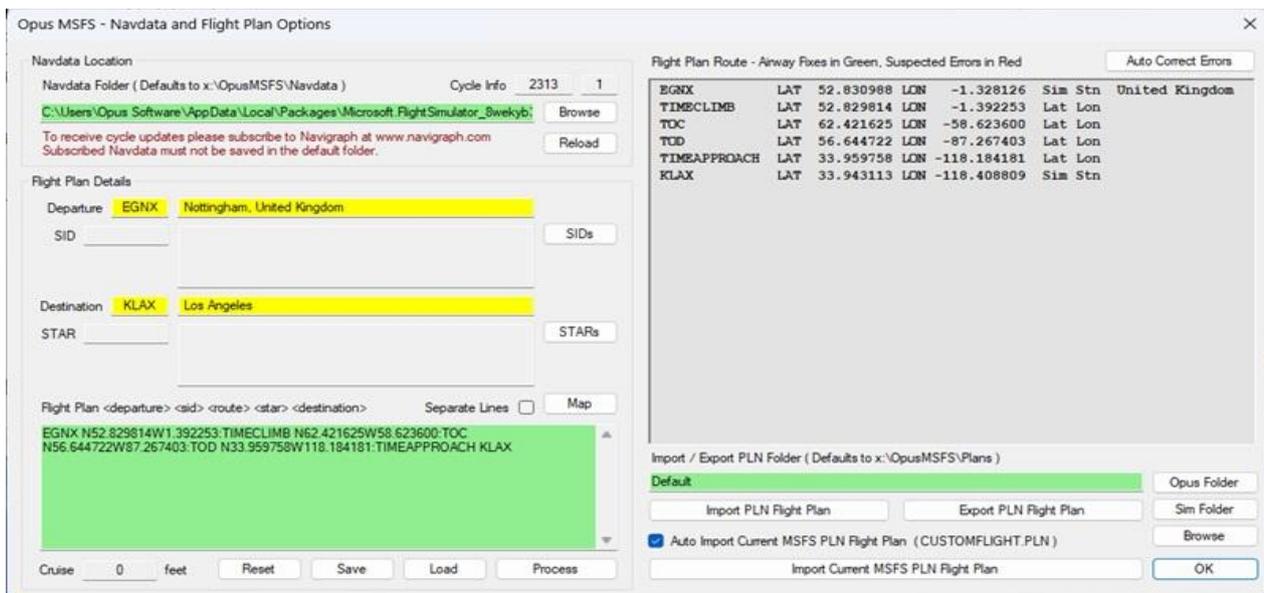
The In-Flight Map can be displayed without the sim active and used to aid flight planning.
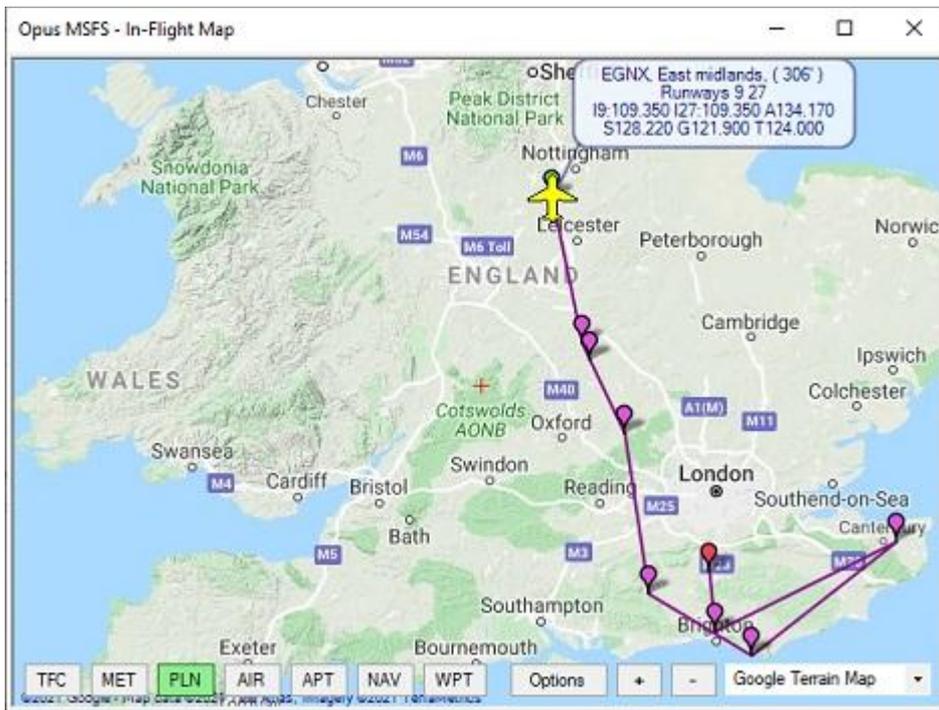
SIDs and **STARs** may be selected from the Flight Planning and Navdata dialog or Station Monitor window and reviewed on the Map. Once selected the relevant portion of the SID or STAR can be cut and pasted into the current flight plan using the Open Flight Plan Form button.
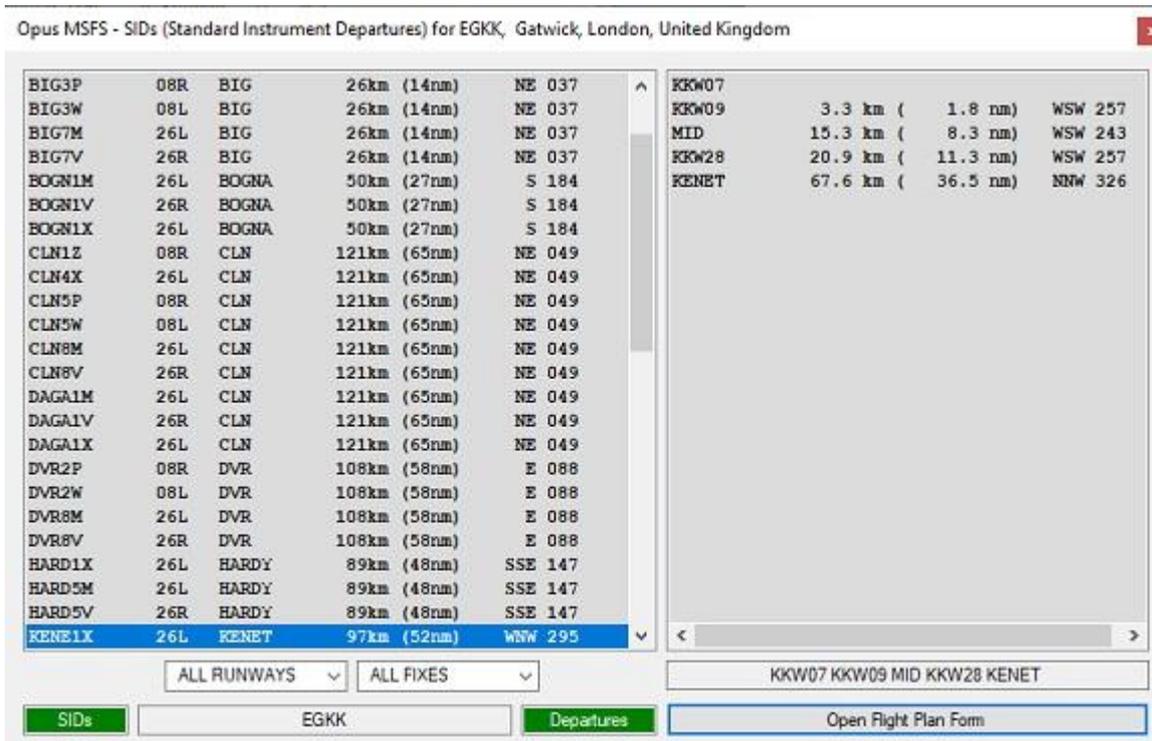
User Specified LatLon Fixes are ideal for including 'points of interest' or geographic landmarks to a flight plan. Double-clicking with the right mouse button anywhere on the OpusMSFS Map will copy the generated fix to the Windows Clipboard ready to be pasted into a flight plan.
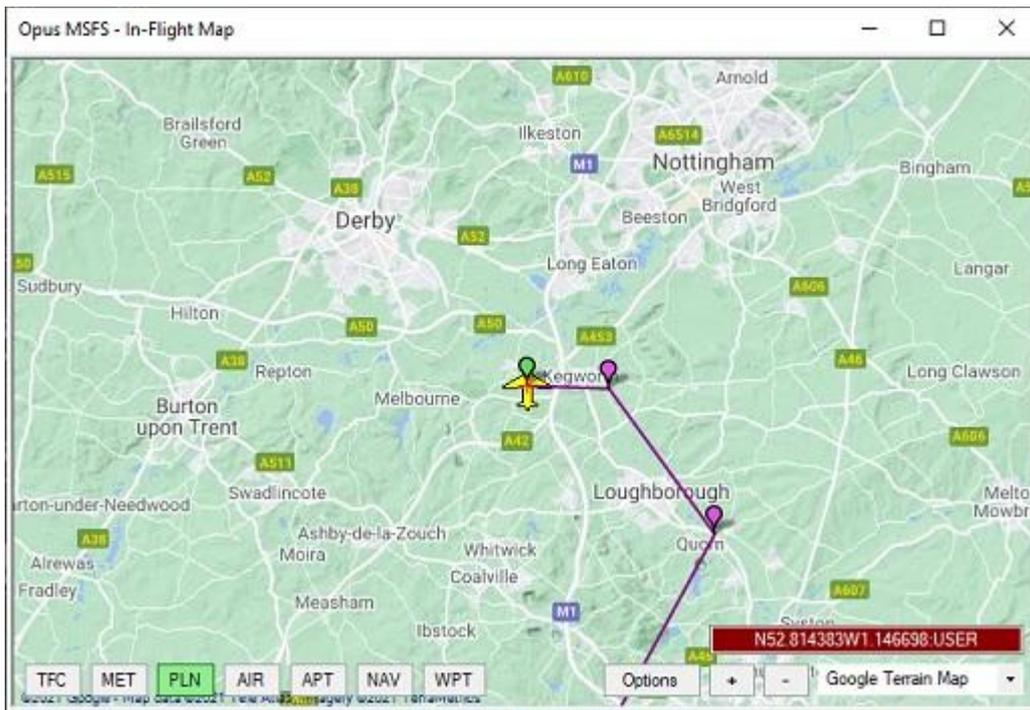
All User LatLon Fix names are exported within the OPUSMSFS.PLN file so they will appear within the simulator's G1000/G3000 flight plan.
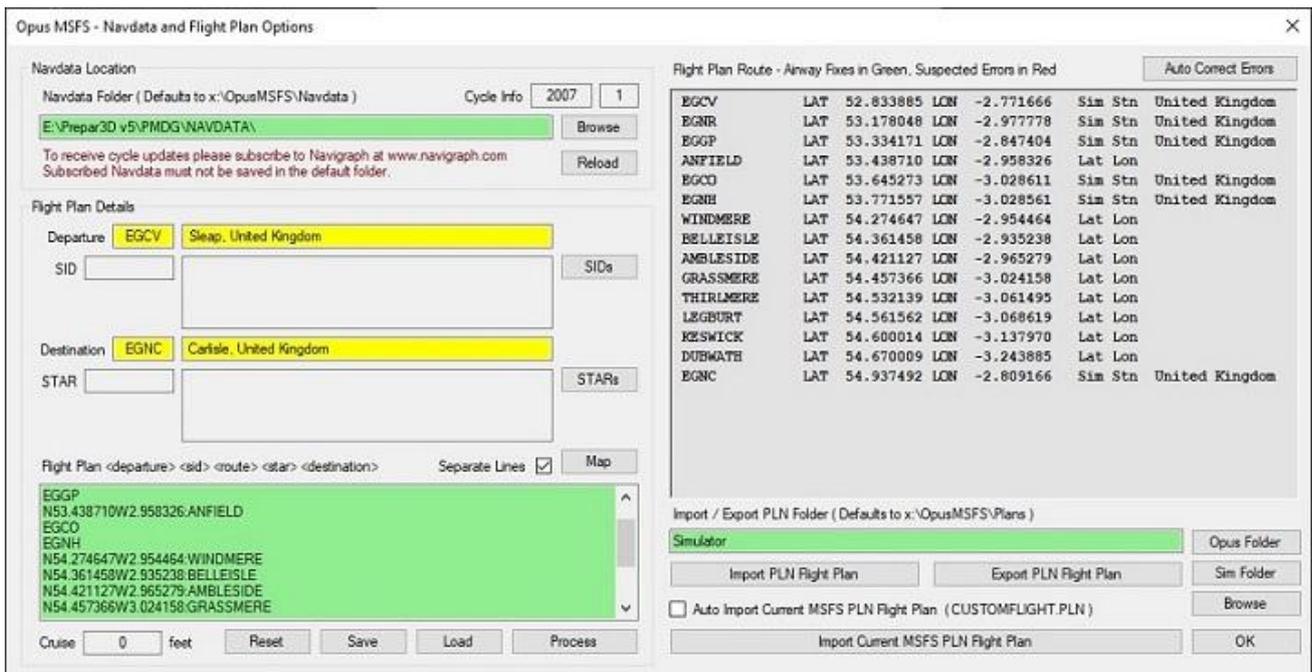
Any Flight plan points that are suspected to be erroneous are highlighted in red and the **Auto Correct Errors** option simplifies the removal of all suspect points from the flight plan.

## In-Flight Moving Map with Live Traffic
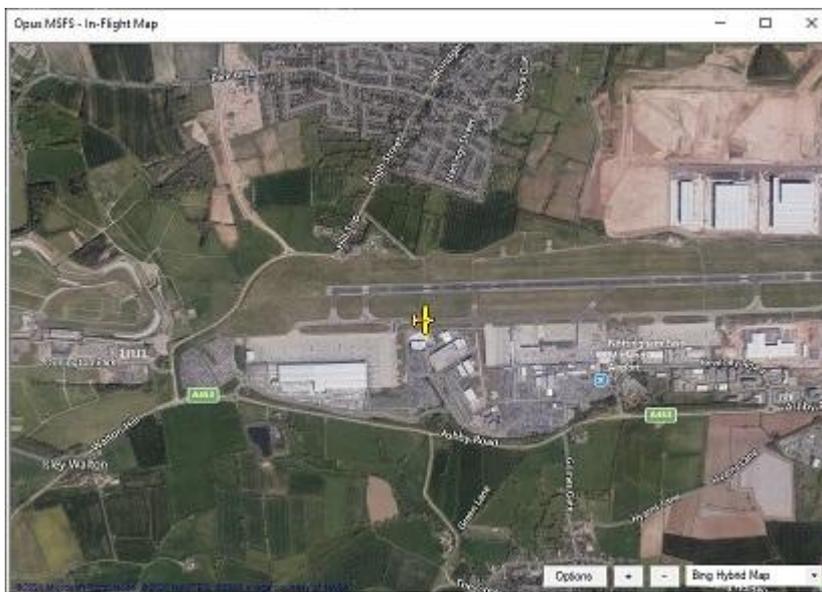
The OpusMSFS In-Flight Moving Map can be positioned and resized in the usual manner and is used to follow the flight across the terrain with the aircraft superimposed over the user selected satellite, terrain, or street map, 6 different map formats are available.

All traffic overlayed on the In-Flight Map is depicted using an appropriate Jet, Piston, Rotorcraft, or custom symbol. The symbol also reflects the current heading of the traffic and is colour coded.

Traffic depicted in Grey refers to traffic currently parked up on the ground and White depicts taxiing aircraft. Traffic depicted in Green are airborne. Traffic depicted in Red are airborne and within 2000 feet of your current altitude, hence, may pose a threat.

Select the options you wish to be superimposed on the map; traffic, flight plan, met stations, airway, aerodromes, navaids and waypoints.

Hovering the mouse cursor over an aircraft symbol on the map will display information about the traffic. For example, aircraft ID, type, model, airline, flight number, current altitude in feet and airspeed in knots.
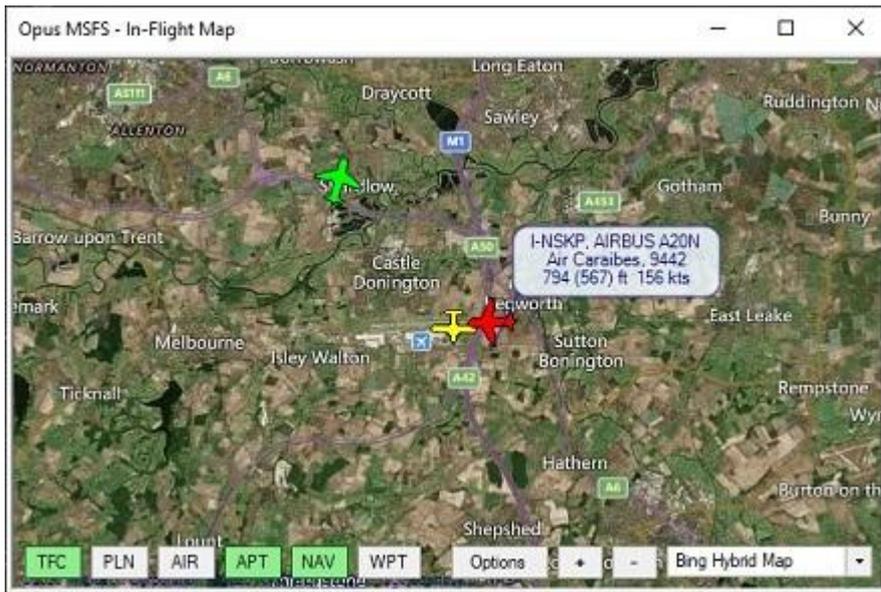
Hovering over an aerodrome marker will display the airport's key information, including its ICAO code, Name, Elevation in feet, all available Runways, and all relevant COM frequencies.
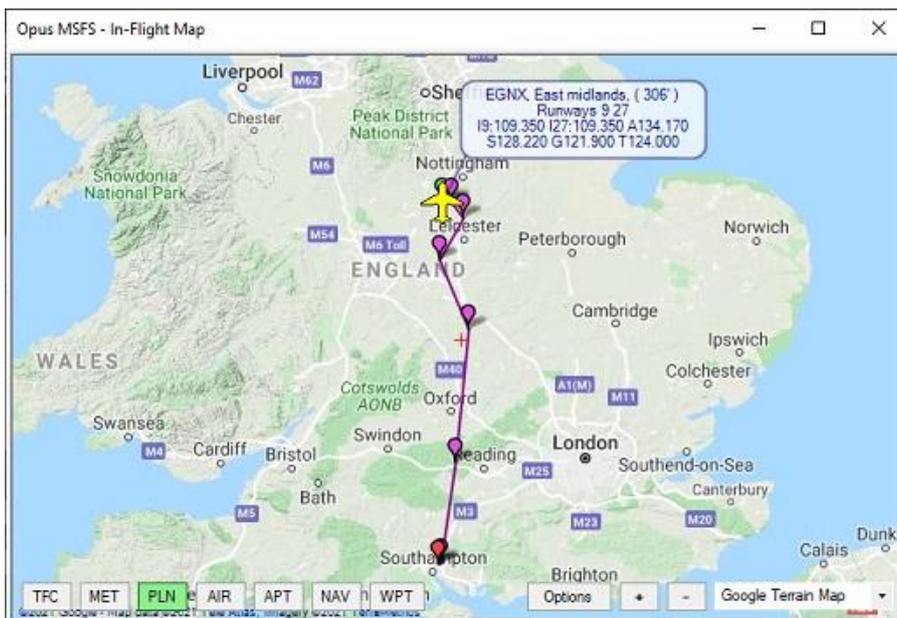

Hovering over a MET station marker will display the airport's key METAR information, including its ICAO code, Name, Elevation in feet, and METAR weather data.
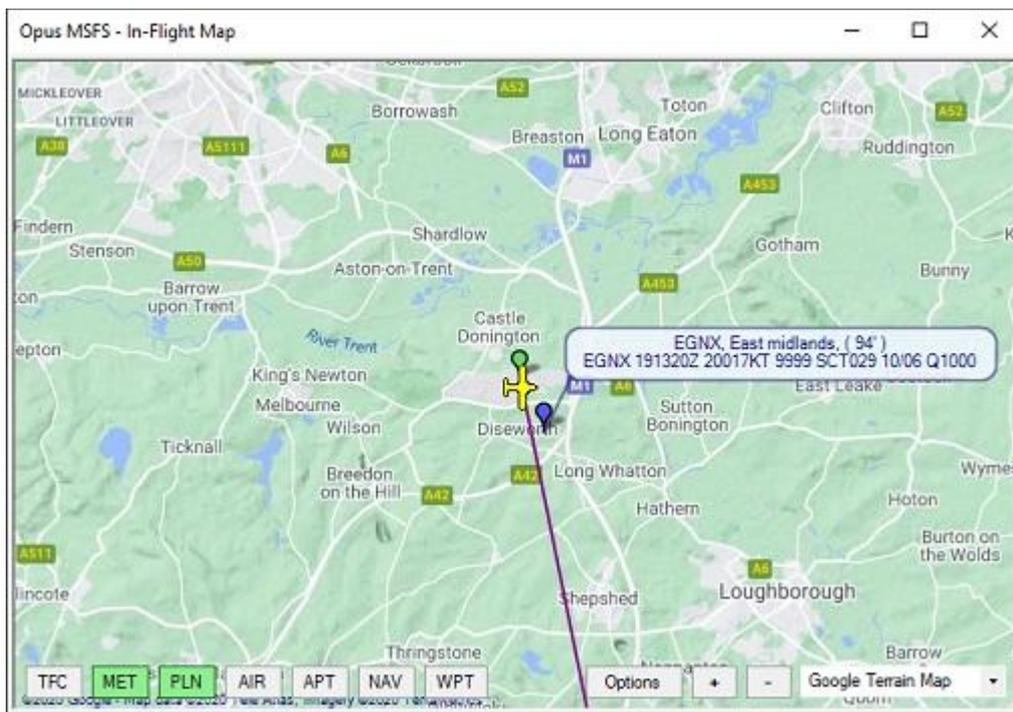
Map display options are provided to Keep Aircraft Centred, Keep Aircraft on Map, set Grey Scale Map, and set the Map Opacity. Additional button controls to display traffic, flight plan, airway, aerodromes, navaids and waypoints may be shown on the map.

Double left click on a station to display the Station Monitor window which aids flying the FS2020 sim by allowing the Destination (or Departure) to be monitored, showing all known details about the airport, including available runways and all communication frequencies, along with any nearby Met Station data (METAR) if one exists. The data associated with the closest Met Station within 64 km (40 miles) will be displayed.

The Station Monitor's SIDs and STARs buttons simplifies the selection of departures and arrivals prior to programming the G1000/G3000 units. The SID and STAR selection is aided graphically by reviewing the departure/arrival route on the OpusMSFS Map. A selected SID or STAR can also be copied into the OpusMSFS Flight Planning form.
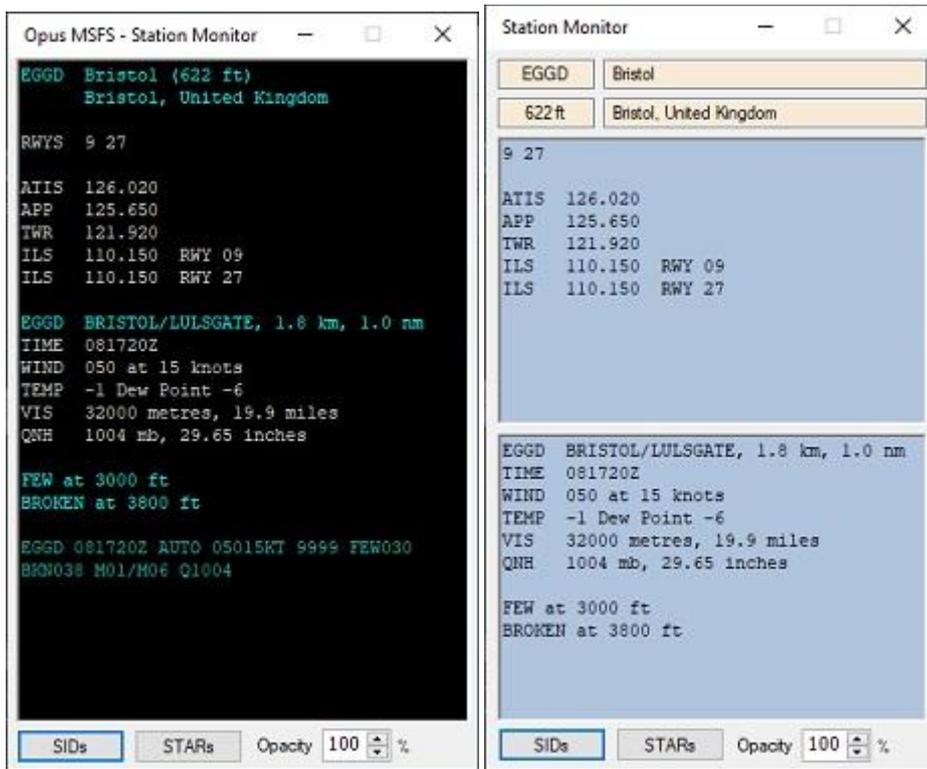
Landing Analysis

The touchdown and landing evaluation data is displayed in the main Spy window which will also display the previously captured landing data. The current evaluation is graded purely on the touchdown vertical speed in feet per minute (including any bounces). On landing the vertical speed is logged in both FPM and FPS units.

An example Spy landing report is shown below. The evaluation is also given as a percentage value (100% for perfect landings). The touchdown airspeed, ground speed, vertical speed and lateral speed are shown. The lateral speed is always displayed in feet per second (FPS) for greater relevance.

```
LND   Previous Touchdown at 09:49:20 Hrs
LND   BUTTER LANDING, Evaluation 74 percent
LND   Airspeed 52 knots, Ground Speed 46 knots
LND   Vertical Speed 79 FPM, Lateral Speed 1.2 FPM
```

A **Landing Analysis Popup** window along with Config options are also included.

All landings are also logged in a User Landings Log file (**LANDINGS.log**) within the OpusMSFS install folder.

Flight Capture and Replay

The Replay Parameters set within the dialog will be used to automatically capture the final approach and landing phase of your flight. Alternatively, you may use the 'Start' and 'Stop' Capture buttons within the dialog to capture any phase of your flight.
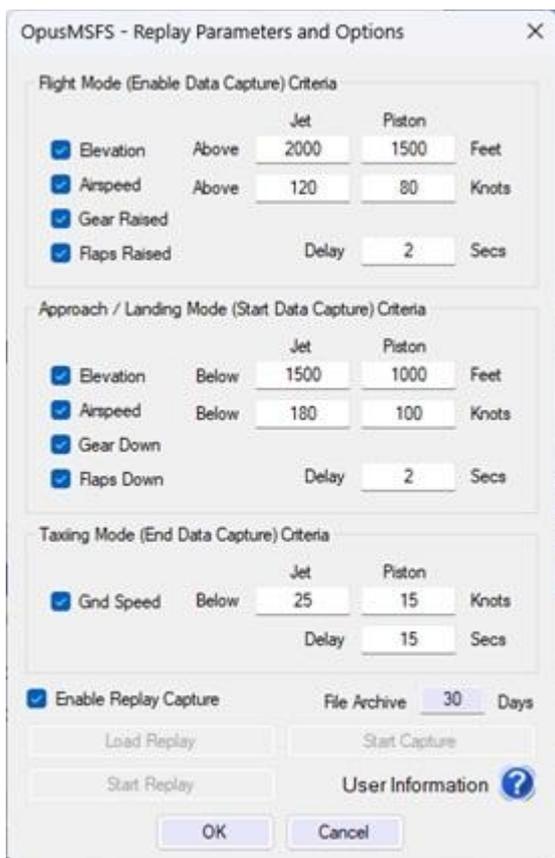
Shortcut Controls

Shortcut Controls enable you to assign joystick button and keyboard keys to common actions or controls within the SERVER program. At present, you can assign buttons and keys to,

- Toggle the Spy window On/Off
- Toggle the In-Flight Map On/Off ; In-Flight Map Zoom In ; In-Flight Map Zoom Out ; Toggle In-Flight Map Traffic ; Toggle In-Flight Map Flight Plan ; Toggle In-Flight Map Airway ; Toggle In-Flight Map Aerodromes ; Toggle In-Flight Map Navaids ; Toggle In-Flight Map Waypoints
- Select Cockpit View mode ; Select External View mode ; Select Showcase View mode
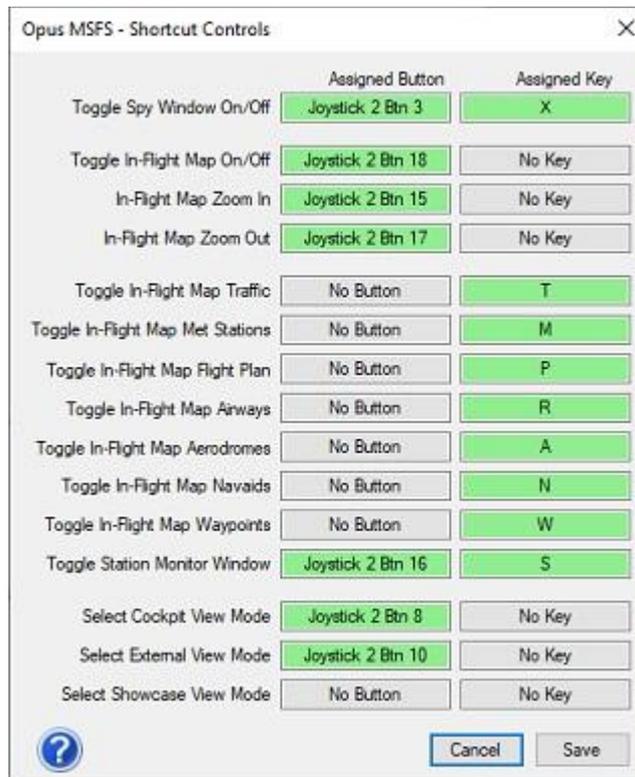
GPS Simulator Interface

The **OpusMSFS** GPS Simulator interface can be used to feed data into an Aviation Planning and Navigation package running on an external device such as SkyDemon® and ForeFlight® with either Basic GPS Data, GDL90 via network, or NMEA GPS Data via VSP protocol.

The external device can be either a PC connected via Wi-Fi or LAN, or a mobile device connected via Wi-Fi (e.g. iPad, iPhone, or Android device).

Device Drivers

The **OpusMSFS** software also includes device drivers for,

·   **ButtKicker**® Gamer 2 (or similar audio controlled) vibration device interface for added vibrational feedback.
·   **FSC 737-TQ** Throttle Quadrant (motorised and unmotorised) driver.
·   **CPFlight** MCP and EFIS (X2) panel support.

Beta Software

Existing OpusMSFS customers can download the OpusMSFS Beta software from our website. Please read the **OpusMSFS_Getting_Started_Single_PC.pdf** document for details of how to set up your system and network.

System Requirements

- Microsoft MSFS simulator.
- Windows 11/10/8/7 operating system.
- Microsoft .NET Framework Version 4.8.