

Aviatrix: Flight Management System (FMS)

Overview

Aviatrix is a flight management system (FMS) created by AeroScientific. It has been designed specifically for use with commercially available medium format, mirrorless and DSLR cameras. It can also be used to control multispectral, hyperspectral and FLIR thermal imaging cameras. Aviatrix has been created for use on manned light aircraft, either in single pilot operations, or multi-crew operations. Aviatrix is supplied in two options: **Standard** and **Advanced**.

Features

Aviatrix has all the functions expected of a typical FMS:

- Real time navigation guidance for the pilot
- Camera triggering based on GPS position, or fixed time/distance intervals
- Real time feedback from the camera
- Full and accurate (millisecond) recording of metadata
- Interface with a wide range of cameras, GPS and IMUs and stabilized mounts

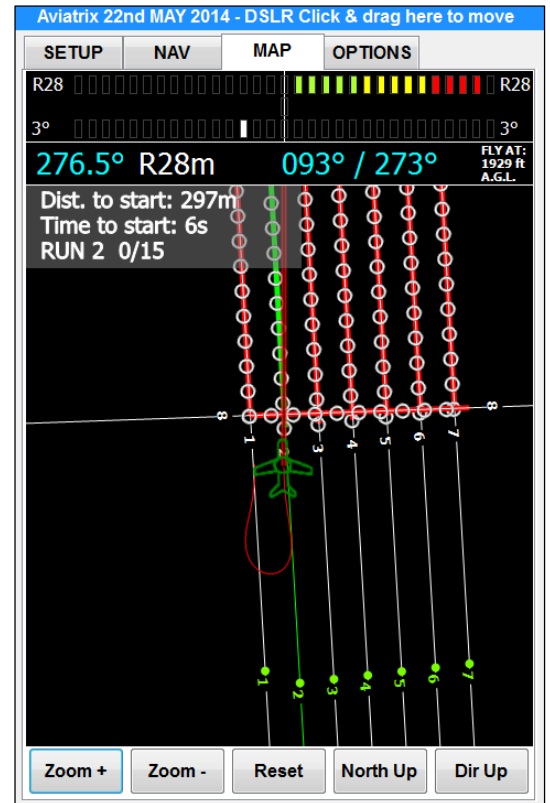
Key differences from other systems

Aviatrix is different from other flight management systems:

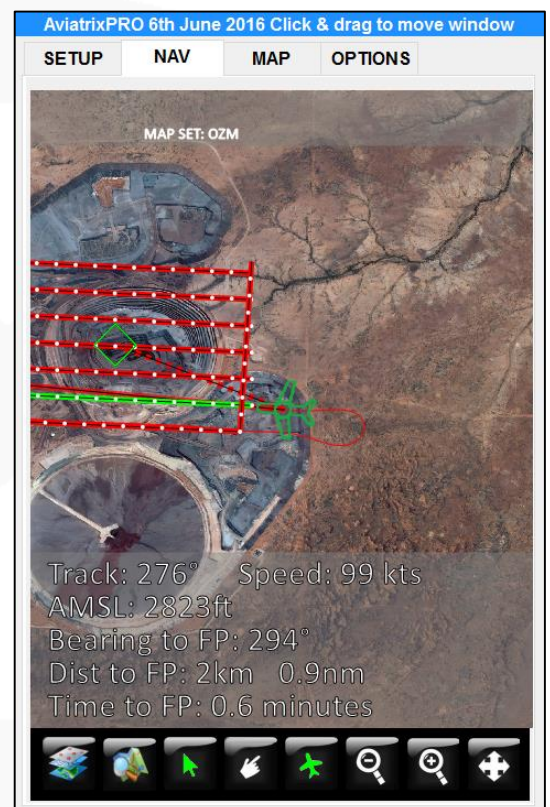
- It has been designed to be as simple as possible to operate. All of the unnecessary features have been removed, so the essential features are easily accessible.
- The whole system has been designed by a collaboration of pilots, aerial camera operators, and engineers.
- All software and hardware is built in-house, which means if necessary, we can adapt Aviatrix to interface with almost any third party hardware or software.



Aviatrix inflight



Primary pilot navigation window



Secondary pilot navigation window

Two Aviatrix packages: Standard & Advanced

The Aviatrix FMS is available in two packages: STANDARD and ADVANCED

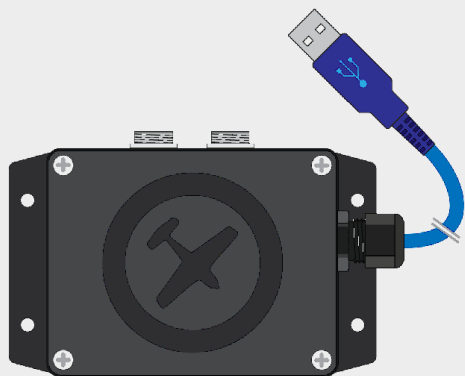
The STANDARD Aviatrix package is a cost-effective solution for entry level operators; typically users who just want a simple flight management system to control commercial off the shelf cameras. In this case the package includes software (FlightPlanner and Aviatrix) and a trigger box. The user provides the remaining hardware (laptop computer and pilot's screen) and also does the installation and testing.

The ADVANCED Aviatrix package is a high-end solution aimed at professional operators, such as those who use high precision GPS/IMU and/or non-standard cameras (large format, thermal, multispectral etc.). In this case we supply more hardware (a ruggedized PC for using in the aircraft, pilot and operator's screens, hard packing cases etc.). We also configure the system to work with more advanced GPS/IMUs, more advanced cameras (FLIR etc.), and gyro-stabilized mounts. The ADVANCED Aviatrix package is delivered as a complete system so that the components can be fully integrated and tested before shipping.

Aviatrix STANDARD

The STANDARD Aviatrix package includes the following components:

- Aviatrix Classic flight management software
- FlightPlanner Classic flight planning software
- AeroScientific trigger box (with internal GPS)
- Cables for triggering up to two cameras (DSLR, medium format, mirrorless etc.)



AeroScientific trigger box

The user is required to supply the following items:

- Camera, lens and camera mount
- Laptop or tablet PC and pilot's display
- Installation and testing

Aviatrix ADVANCED

The ADVANCED Aviatrix package includes the following components:

- Aviatrix Pro flight management software
- FlightPlanner Pro flight planning software
- AeroControlBox flight computer
- Two daylight readable touchscreen displays
- Cables for triggering up to two cameras
- Cables for interfacing with GPS/IMU and gyro-stabilized mounts



AeroControlBox
(some versions may vary in design slightly)

Since we have sales agreements in place with many different hardware manufacturers, the ADVANCED package can be supplied as a fully integrated system, including cameras, GPS/IMU and camera mount if required.

GPS receivers

Both systems (STANDARD and ADVANCED) include a 10Hz non-differential GPS receiver, which is accurate to approx. 5m. Users of the ADVANCED system have the option to use an alternative high precision GPS and IMU if required, but it is not essential.

Aviatrix flight management software: Classic vs. Pro

Different versions of Aviatrix for the STANDARD and ADVANCED packages

In order to best meet the needs for our users, and to deliver the most appropriate airborne imaging solution at the correct price, each package (STANDARD and ADVANCED) includes different versions of the Aviatrix flight management software. The STANDARD package includes Aviatrix Classic, whilst the ADVANCED package includes Aviatrix Pro. The extra features available in the Pro version, but not available in the Classic version, are listed below.

Feature	Aviatrix Classic	Aviatrix Pro
Display vertical distance from flight lines	✘	✓
Fly flight plans with lines of varying heights	✘	✓
Display shape files in the pilot's display	✘	✓
Import terrain data	✘	✓
Import airports database	✘	✓
Graphical display of off-track tolerance in the pilot's display	✘	✓
Enable white background in the pilot's display	✘	✓

Users of the STANDARD package are able to upgrade to the Pro version of Aviatrix for an extra fee, but users of the ADVANCED package are not able to downgrade from Pro to Classic.

About AeroScientific

AeroScientific (a business unit of Spatial Scientific Pty. Ltd.) creates software and hardware for aerial surveyors. The focus of our aerial imaging technology is the award-winning Aviatrix flight management and aerial camera control system. This is supported by our flight planning software: FlightPlanner. AeroScientific draws on many years of practical aerial survey experience, which has enabled us to create imaging systems that make aerial data capture significantly easier, cheaper, and more efficient than any other flight management system available today.

About Spatial Scientific

Spatial Scientific Pty. Ltd. (established in 2005) is an Australian developer of custom-built imaging systems, as well as an airborne data provider. The company has an established track record in building fully integrated systems using thermal, multispectral and high resolution imaging technologies for both airborne and ground-based applications. Spatial Scientific uses those systems in its own aircraft to acquire airborne data for a range of clients. The solution, whether it is an imaging system or a data product, is always targeted to the needs of the client.

Further information is available from our website. Information flyers are available for all of our hardware and software products. Please visit www.aeroscientific.com.au for more information.