



# VOLANS

## Quick Guide

Instructions for using VOLANS Software Module

Version 1.0

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## Getting Started

VOLANS is a web-based Java application. To run VOLANS, you must have Java installed. For maximized performance, your computer should meet the following suggested minimum requirements. If these minimum requirements are not met, you will likely experience significant performance lags.

1. It is best to have a dedicated graphics card installed on your computer; the application uses substantially more drawing graphics than many programs.
2. Computer memory is an important aspect of running VOLANS. If your computer has less than 2 gigabytes of main memory (2GB RAM), the overall experience can be much slower.
3. The 3D radar application stores local data files onto your computer for quick access. This includes the images that make up the globe and your selected preferences. We suggest you have a minimum of 50 megabytes (50 MB) of free disk space on your primary disk.
4. Because the 3D radar application is Internet-based, there is a significant amount of downloading required. For best performance we suggest a minimum download speed of 350 kilobits/second (350KB). The initial program download is about 10 megabytes (10 MB) but the program is stored on your computer for faster startup when you run it again. A faster Internet speed means less waiting for you.
5. For best performance, it is important to keep your video driver software updated. Often updates are available which can significantly enhance the performance of your graphics, and in some cases, fix problems running the program. Since the 3D radar application utilizes the Open Graphics Language (OpenGL) to draw everything you will see, video card updates will ensure your system is on the most up-to-date version for best performance.

## **USER CONTROLS**

The USER CONTROLS panel on the right side is where the user can control all aspects of VOLANS. The User Controls is divided into sections that apply to the flight tracks, how the flight tracks are displayed and the type of information shown. These are all options that the user can turn on/off. These features can be turned on/off to customize the user experience, only showing information that is important to the user.

The graphic on the following page shows a larger version of the User Controls panel, pointing out the features of each section. This page is a great quick reference guide for users as they get used to the program.

The portions of the User Controls panel that are more in-depth each have a dedicated section of this manual that describes these expanded options.

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## **VOLANS MOUSE and KEYBOARD CONTROLS**

Volans can be controlled using the keyboard and mouse to change the zoom, pan, and rotation.

### Keyboard

| <u>Key</u>         | <u>Function</u>  |
|--------------------|--|
| Plus               | Zoom In  |
| Minus              | Zoom Out   |
| Shift+Left Arrow   | Rotate globe left  |
| Shift+Right Arrow  | Rotate globe right   |
| Shift + Up Arrow   | Move to birds-eye view                                     |
| Shift + Down Arrow | Move to 3D view  |
| Arrows             | Moves the map up, down, right, left                        |
| R button           | Resets maps to default tilt position, bird's eye view      |
| N button           | Resets map to position with north at the top of the screen |

### Mouse

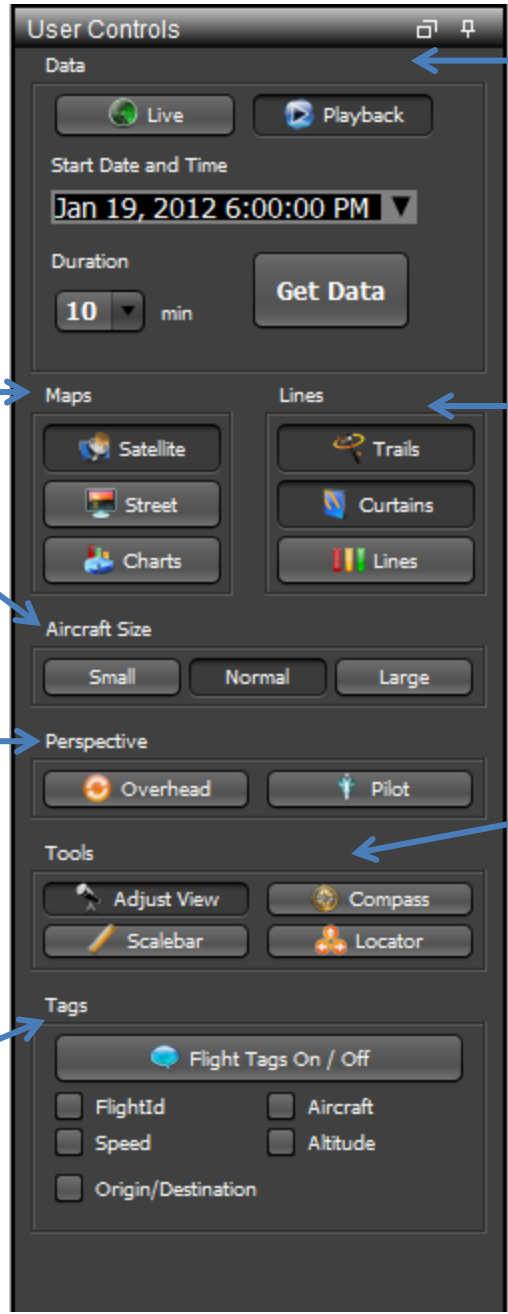
| <u>Button</u> | <u>Function</u>                              |
|---------------|--|
| Left          | Pan up, down, left and right                 |
| Right         | Rotates map up and down to see flights in 3D |
| Scroll Wheel  | Zoom In & Out                                |

**Maps**  
Three options for the type of map used as the base for the flight tracks.  
*Satellite* – photo image  
*Street* – map with labeled roadways  
*Charts* – aeronautical map used by pilots

**Aircraft Size**  
Resize aircraft on display. The default is Normal.

**Perspective**  
Shows the flight tracks as a group or one flight.  
*Overhead* – view from space  
*Pilot* – click on an aircraft to show the pilot view of that individual flight.

**Tags**  
Information for each flight that can be turned on or off and customized.



**Data**  
View flight tracks in real-time or historic.  
For Playback, choose the Start Date and Time, Duration of time and then Get Data. This data will play in a loop until the user changes the data.

**Lines**  
Visualization of flight tracks  
*Trails*– line that shows the path that the aircraft flew  
*Curtain*– shaded area between the aircraft and ground to show depth  
*Lines* – turn the flight track lines on or off

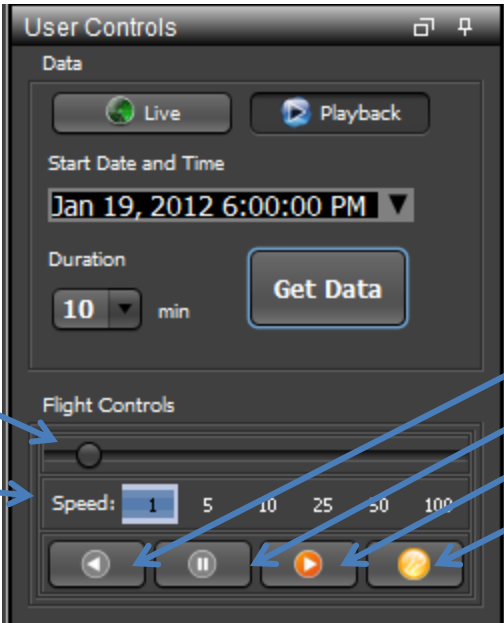
**Tools**  
Adds widgets to the map  
*Adjust View* – widgets to move the map  
*Scalebar* – shows the map scale  
*Compass* - shows the perspective of the map  
*Locator* – locate an address on the map

## VOLANS DATA

There are two flight modes in Volans, Live and Playback, which is the first section of the User Control side bar. Live data is flight track data that will immediately play with a 10 minute delay and is the default mode for Volans. Users can also search for historic flight track data using the Playback mode.

### Playback mode

In Playback mode, the user can choose a time period to play historic data. Users can click on the arrow next to the current date. This arrow expands the calendar. When the desired time period is chosen, the user can choose how long the Playback will be using Duration (between 10 – 60 minutes), then Get Data. This will load the map with the historic flight data. The Playback mode also includes additional Flight Controls as shown here. These control the speed of the Playback, ability to pause, fast forward, and rewind as well as change the size of the aircraft.



The screenshot shows the 'User Controls' panel with the following elements:

- Data Section:** Includes 'Live' and 'Playback' mode buttons. The 'Playback' mode is selected.
- Start Date and Time:** A date/time selector showing 'Jan 19, 2012 6:00:00 PM'.
- Duration:** A dropdown menu set to '10 min' and a 'Get Data' button.
- Flight Controls Section:** Includes a 'Speed' slider (set to 1) and buttons for 'Rewind', 'Pause', 'Play', and 'Toggle time'.

Annotations on the left side:

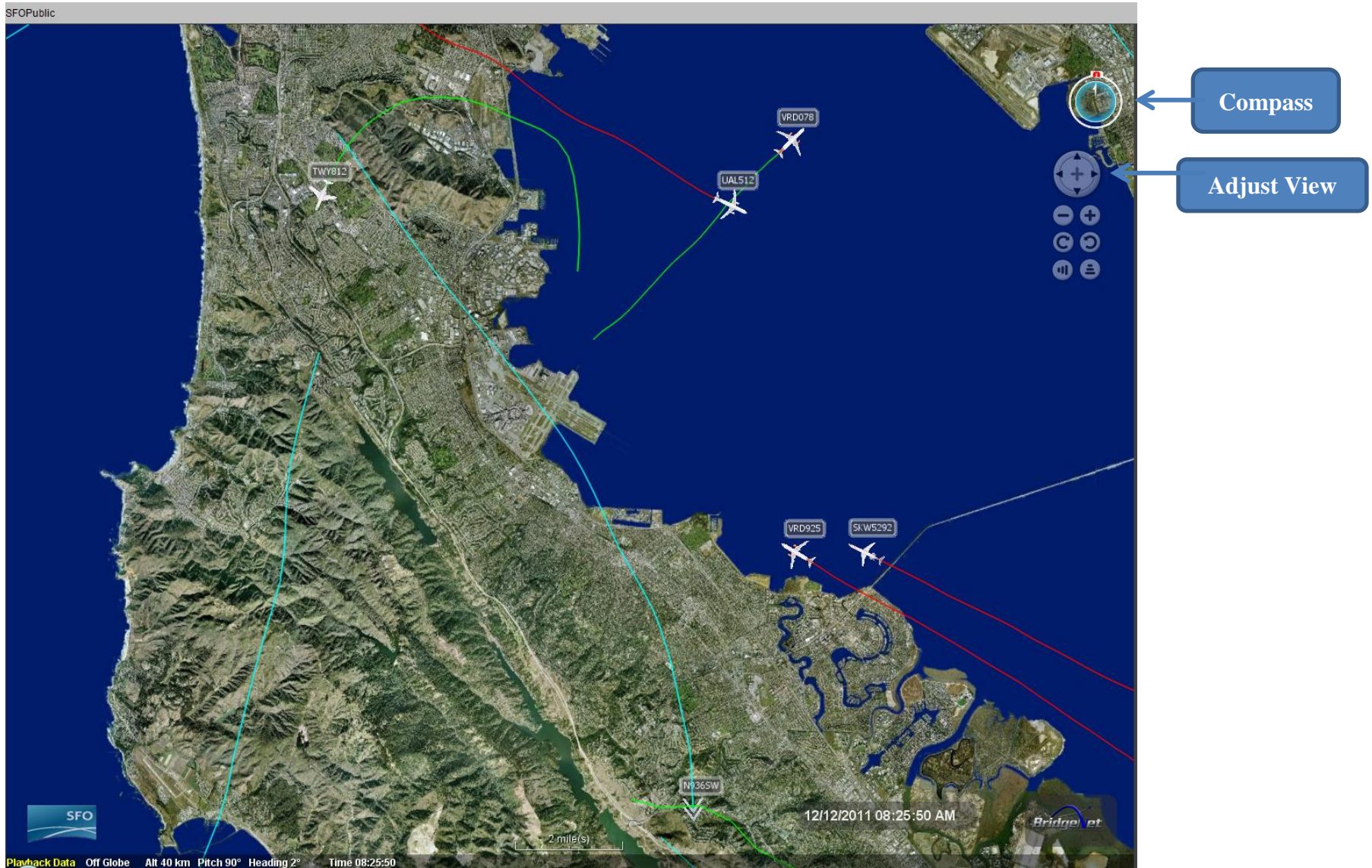
- Time Slider* - Move button forward and back to a specific time in the Playback.
- Speed* – speed of Playback

Annotations on the right side:

- Playback
- Rewind*
- Pause*
- Play*
- Toggle time* - stamp at bottom of map on/off

## VOLANS TOOLS

Volans can also be controlled using the Adjust View function from the Control Panel. The Adjust View functions allow the user to control the look of the map as well as navigating the map using on-screen tools instead of the keyboard or mouse. This graphic shows the layout of the Adjust View and Compass.



## Adjust View



**Adjust View**

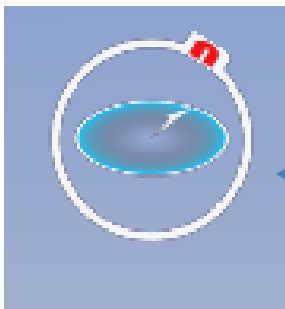
*Map Pan* – move the map up/down & side to side

*Zoom* – Zoom in & out of the map view

*Rotate* – Pivots the map right to left, staying centered on the current view

*3D Pan* – Tilts the map to/from a 3D perspective

## Compass

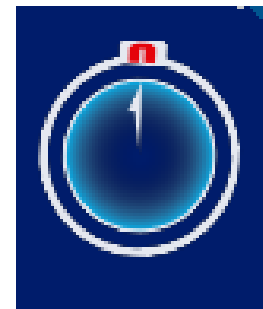


**Compass**

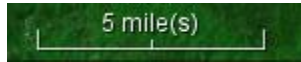
Shows the map orientation, with the arrow pointing North. Tilting the map will cause the Compass to rotate with the earth.

3D View

Bird's-Eye View



## Scale Bar



### Scale bar

Shows the current scale of the map. The scale will change based on the level of zoom.

## Status Bar

### Status Bar

Shows the current map orientation

*Lat/Lon* – location of the mouse

*Elev* – Ground elevation at the location of the mouse on the screen.

*Alt* - Altitude of the view perspective above the ground.

*Pitch* - Angle of the view to the earth.

*Heading* – Compass heading of the map, as seen on the Compass in the upper right corner with the white arrow.

Lat -9.7050° Lon 137.6257° Elev -48 meters Alt 7000 km Pitch 90° Heading 0°