REALSIM® GEAR

SFx

(For the Cirrus SF50 VisionJet Aircraft)

INSTRUCTION AND OPERATION GUIDE

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Disclaimer

The REALSIMGEAR® SFx system that represents a Cirrus SF50 VisionJet aircraft. This manual contains information on how to setup, use and troubleshoot the REALSIMGEAR® SFx system. The reader of this manual is expected to know how to fly an aircraft or to be participating in a structured and approved flight training program.

This manual is in no respect a tutorial in visual flight, instrument flight or navigation. Its only purpose is to introduce the REALSIMGEAR® SFx and software to enable a pilot to use this training device.

Information in this manual is subject to change without notice and does not represent a commitment on the part of the licensor.

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Product Overview

Thanks for purchasing the REALSIMGEAR® SFx simulator system, the most realistic Cirrus SF50 VisionJet simulator on the market! The SFx has been designed to provide pilots with an ultra-realistic flight training environment that very closely resembles a Cirrus SF50 VisionJet aircraft. The system is comprised of the following major components:

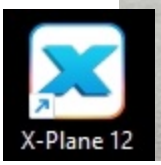
- Mounting platform with leather seat
- REALSIMGEAR® SFx Console including realistic G3000 PFD and MFD and GTC touch screens, SF50 VisionJet switch panel and landing gear handle
- REALSIMGEAR® rorce feedback yoke with realistic Cirrus SF50 VisionJet grip
- REALSIMGEAR® Cirrus SF50 VisionJet throttle console with auto-throttle, motorized trim, flap controls and GFC500 autopilot
- Virtual Fly Ruddo+ rudder pedals
- High performance computer system running Windows 11 and X-Plane 12 with wireless keyboard and mouse
- Single or triple screen options for visuals
- Optional instructor station with keyboard/mouse tray and 22” touch screen monitor

System Startup and Shutdown

The REALSIMGEAR® SFx system startup and shutdown procedure is outlined below. It is important that these procedures are followed otherwise file corruption on the simulator system can occur, which may require technical support to resolve.

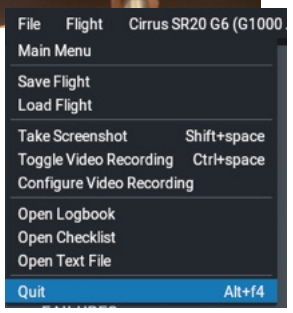
System Startup

1. Find the power switch on the back of the SFx console, open the cover, move the switch to the on position (O). ** This should power on the main panel, the monitor, and the computer should boot up on its own.
2. Once the system is fully booted and the screen shows the main computer Desktop, find and double click the X-Plane 12 shortcut which will start X-Plane.

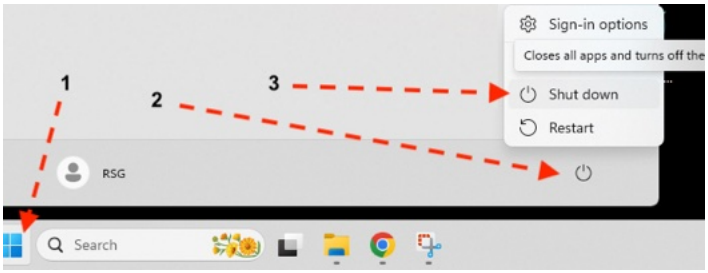


System Shutdown

1. From the X-Plane File Menu, choose Quit to shut down X-Plane.



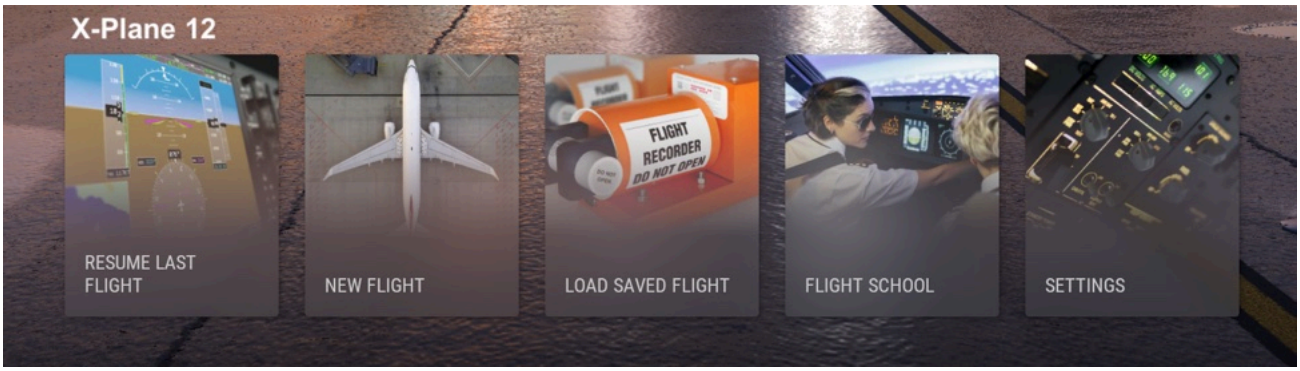
2. Once X-Plane has exited, shut down the computer by using the Windows icon > Power icon > Shutdown.
3. Once the computer has stopped running, turn off the power switch on the back of the console (I).



Simulator Operations

Main Screen

When you first start X-Plane using the X-Plane icon on the Desktop, you will be presented with an X-Plane 12 home screen:



Resume Last Flight - ** We recommend you DO NOT use this option.

New Flight - Always use this option to set up a new flight, select aircraft, set weather and location

Load Saved Flight - This option can be used to load previously configured scenarios, aircraft, weather and location

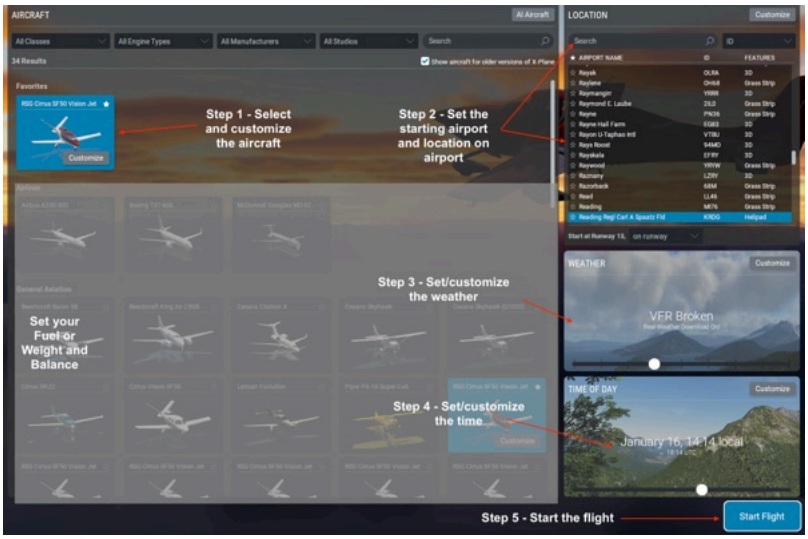
Flight School - This option has been disabled on these systems

Settings - This option allows you to change the simulator settings

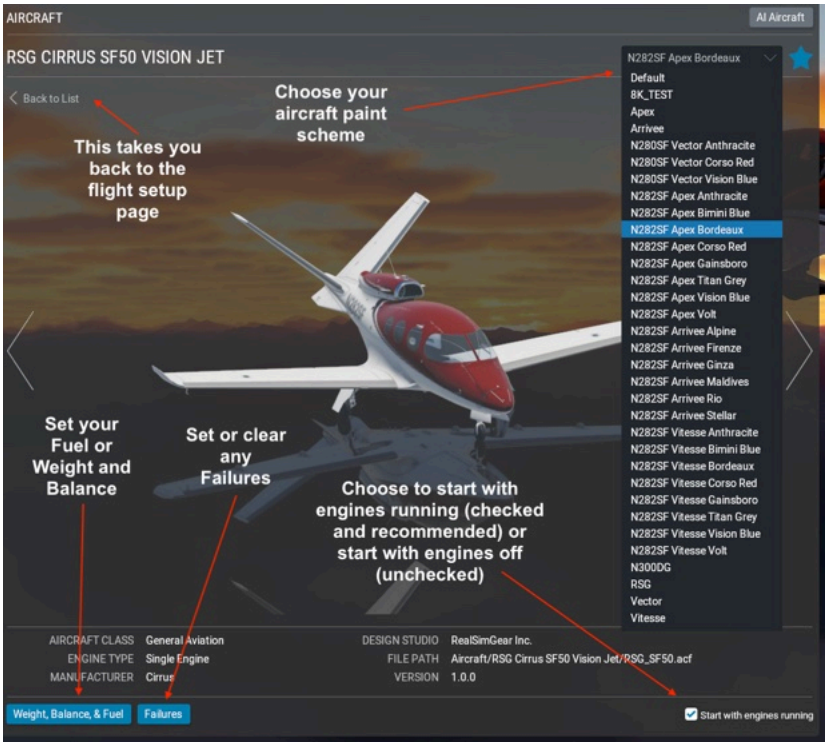
Quit X-Plane - This exits the simulator and takes the user back to the Desktop

New Flight Screen

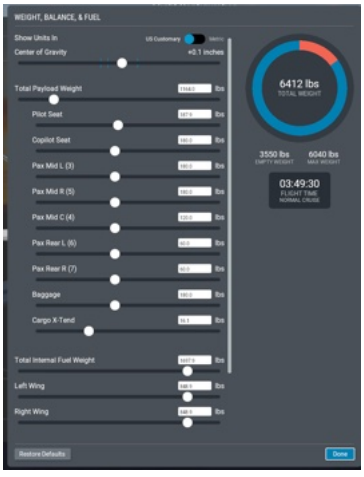
This screen allows you to build a flight scenario in four steps:



Aircraft - This system is configured for a single aircraft, the Cirrus SF50 VisionJet. Choosing the Customize button, will allow you to change the color scheme of the aircraft. Also, you can choose to start the aircraft with the engines running and ready to fly by checking the 'Start with engines running' checkbox (leave unchecked if you want to start the aircraft in a cold and dark state).

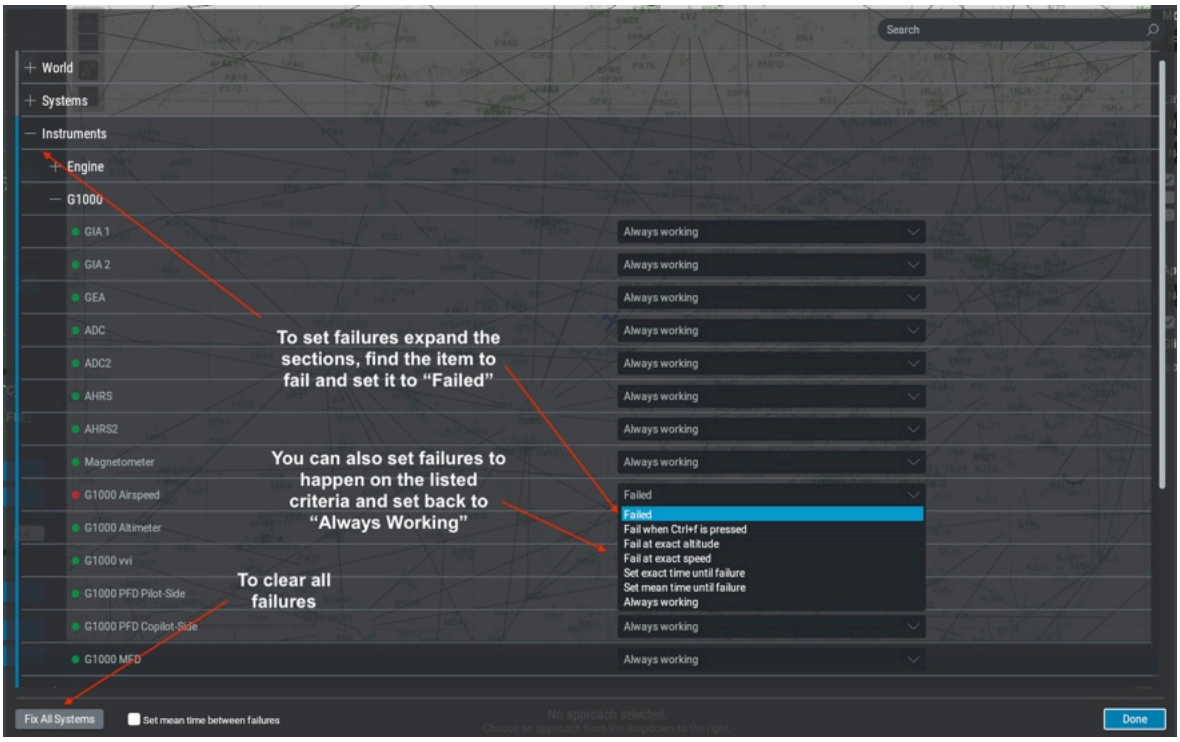


To set your Fuel load or Weight and Balance, choose the Weight, Balance, & Fuel button and adjust each slider as required. Once done, click the Done button.



Last Revision: October 10th,, 2024

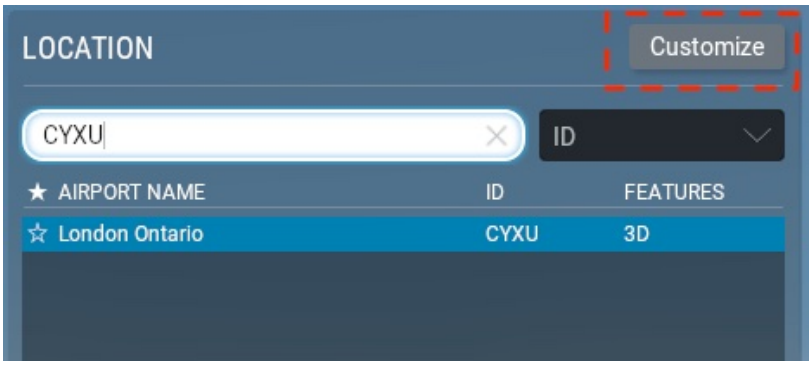
To set or clear any Failures, click the Failures button. To clear any and all failures, hit the Fix All Systems. If you want to fail specific items, you can expand the groups of items until you find the item you want to fail, then from the drop down select "Failed" which will immediately fail the item. You can also choose to set a criteria for failure as listed, such as at a certain time, altitude, speed. This is where you can also restore the individual failure by setting it back to "Always working".



- Note that when hitting Done these failures are immediate.

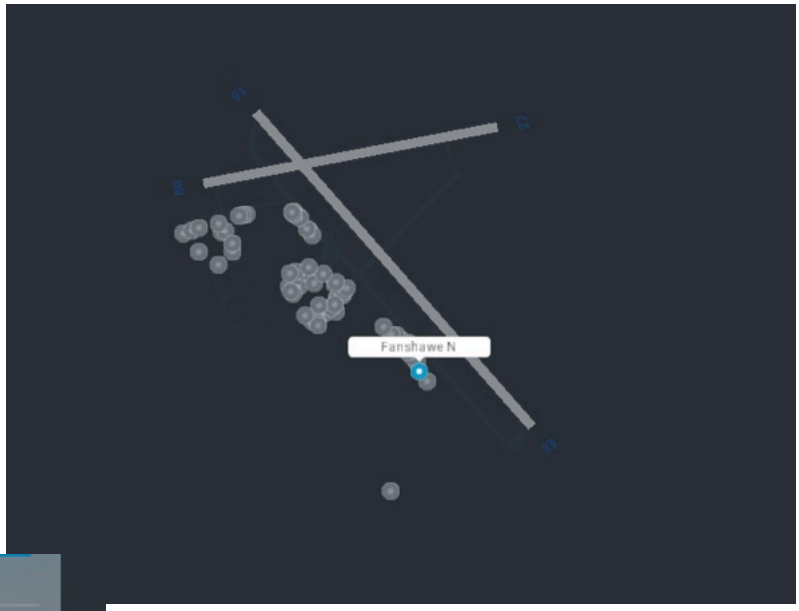
Once done with all customizations, click the "Back to List" button on the upper left corner which will take you back to the flight setup page.

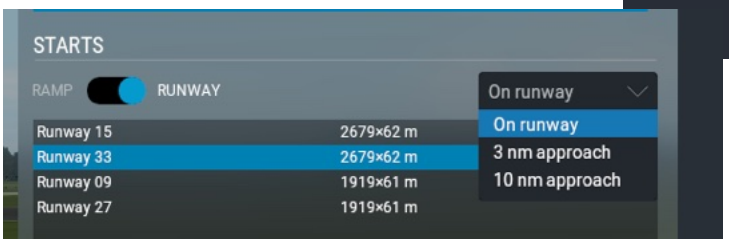
Location - Choose the airport by searching by airport name or ICAO and then double click to open an airport map, or choose Customize. Use the mouse wheel to zoom in/out and the mouse to move around.



Choose a starting location at the airport by selecting any of the ramp start locations indicated by a dot, or either end of the runway. When selecting the end of a runway, there is the additional option of being able to select (on the left side) between 'On Runway' or '3 or 5 mile approach'.

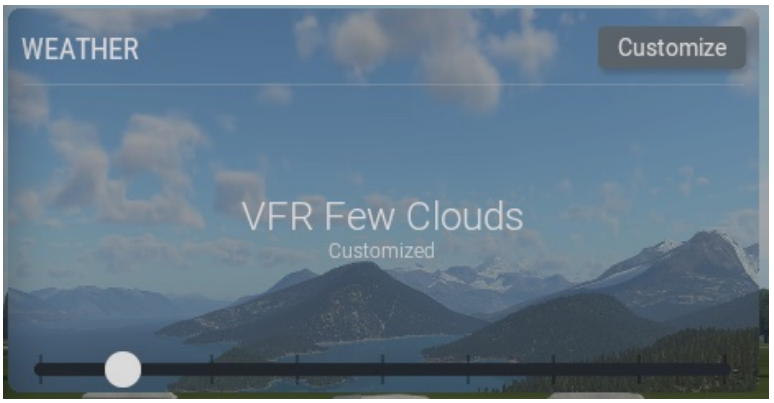
Choose Confirm once done.



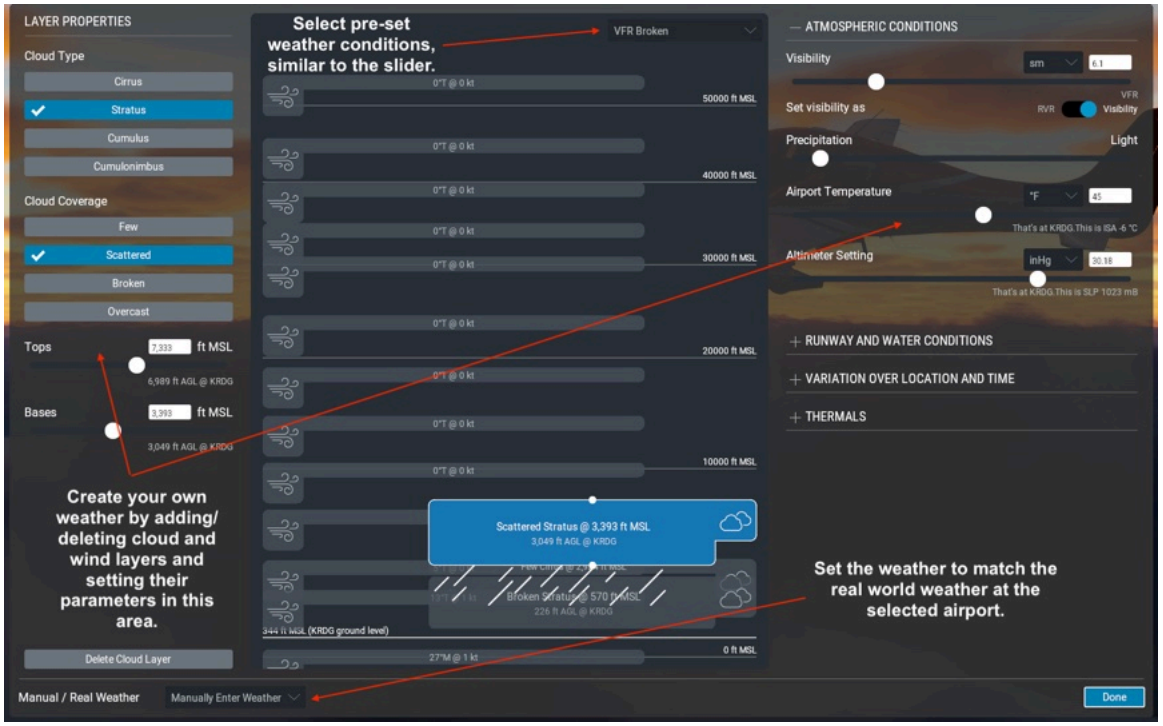


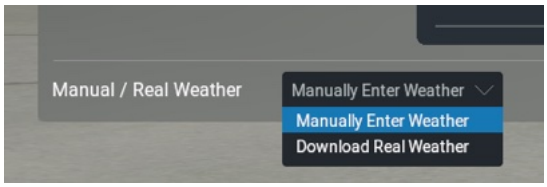
** The simulator has been loaded with all world scenery, meaning you can choose any airport in the world to fly to/from. However, some airports may have a very basic airport depiction.

Weather - Choose the desired weather conditions by sliding the slider left to right. The farther right you move, the worse the configured weather conditions will be.



Choosing Customize will allow a selection from another dropdown menu of weather conditions, which will allow manual customization of all the weather conditions such as adding wind/cloud layers/types/speeds, set temperatures, pressures, precipitation, etc.

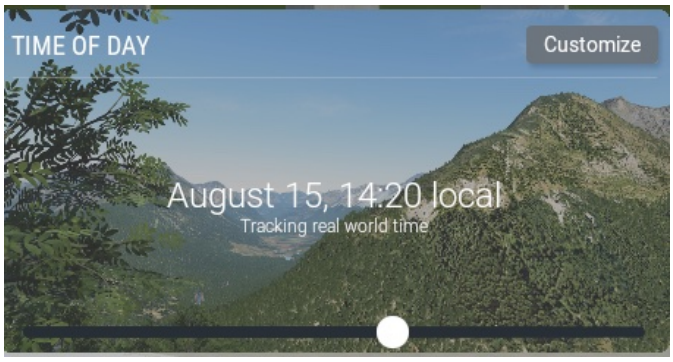




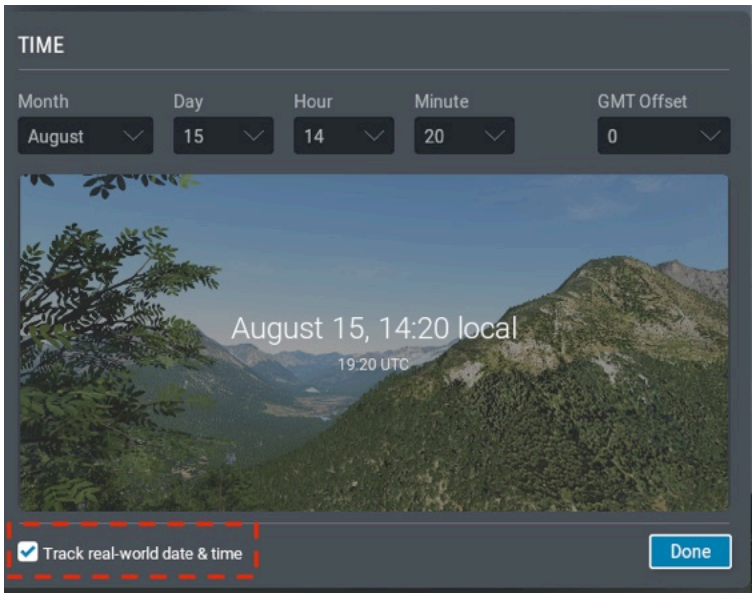
If you would like the weather to match the real world conditions at the selected airport, choose the 'Download Real Weather' to have X-Plane download the real world weather METAR and build weather based on that.

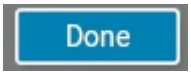
Select Done when finished with any weather customization.

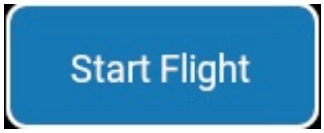
Time - Choose the time of the day desired by moving the slider left or right.



Choosing  will allow the selection of a specific date and time as well as allow for 'Track real world date & time'.

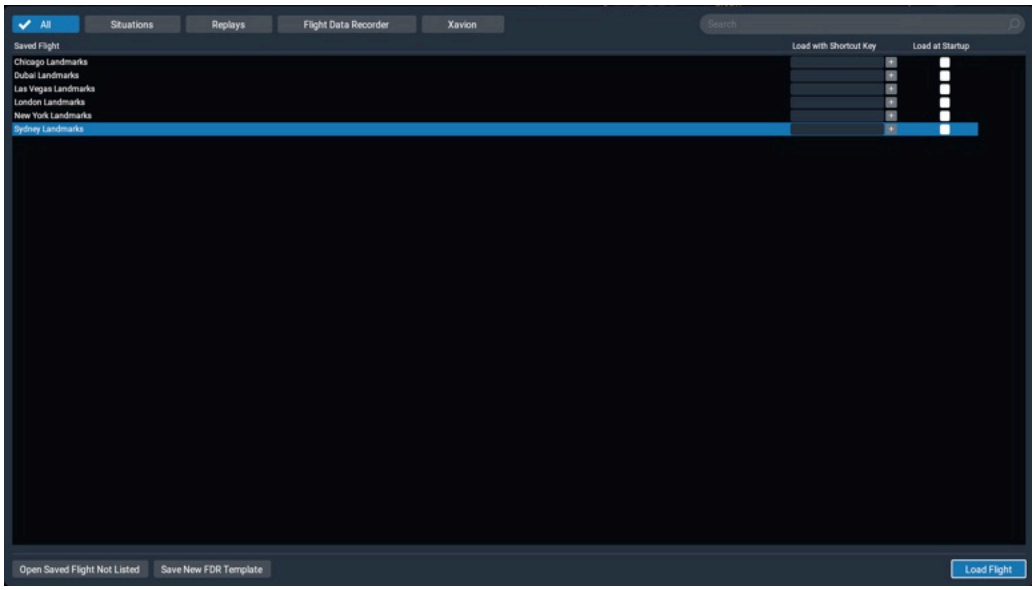


Select  when finished with any time customization.

Start Flight - Once the flight is configured, choose the  button which will load the simulation with the defined parameters.

Load Saved Flight Screen

Using this screen, pre-configured scenarios or replays can be loaded. These scenarios can be created by REALSIMGEAR® as part of the setup and/or created by the customer.



Flight School

While this button is still present on the main startup screen, its functionality has been removed on this system.

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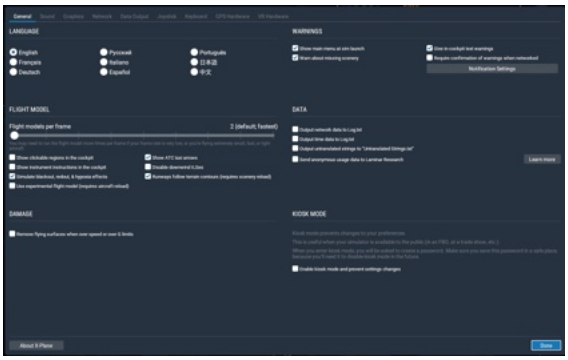
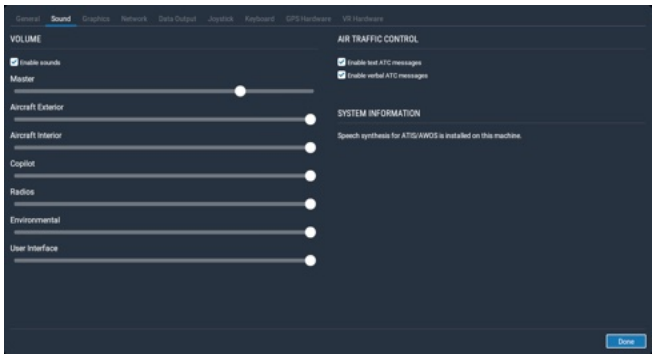
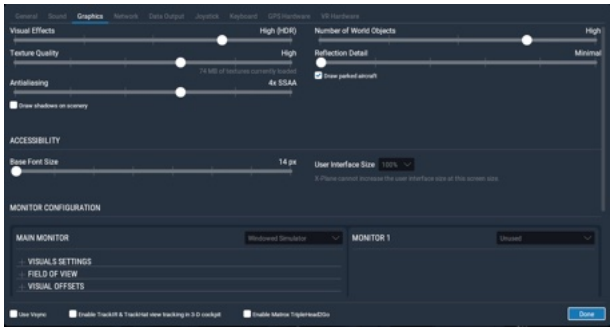
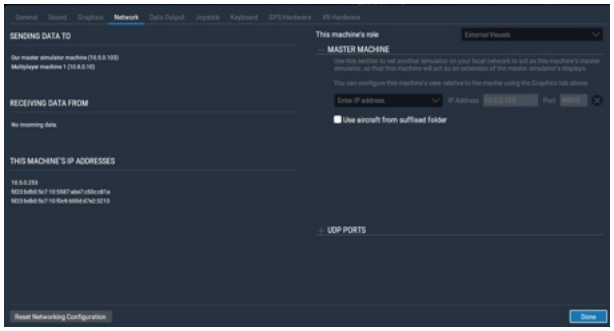
Settings Screen

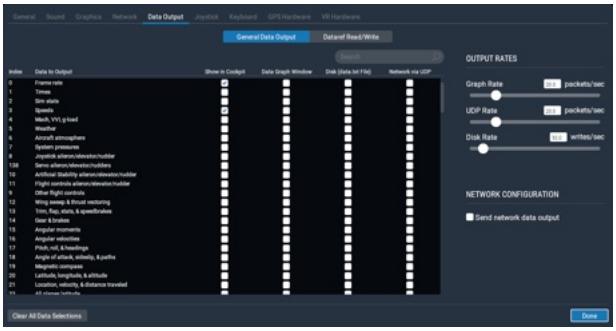
This screen allows for setting a vast array of X-Plane configuration items. REALSIMGEAR® pre-configures the optimal settings for the SFx system and in general should NOT be changed without help from REALSIMGEAR®.

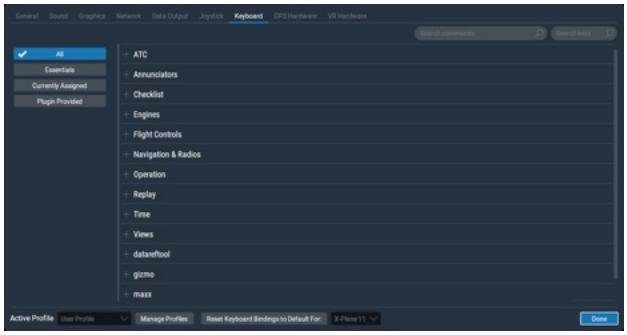












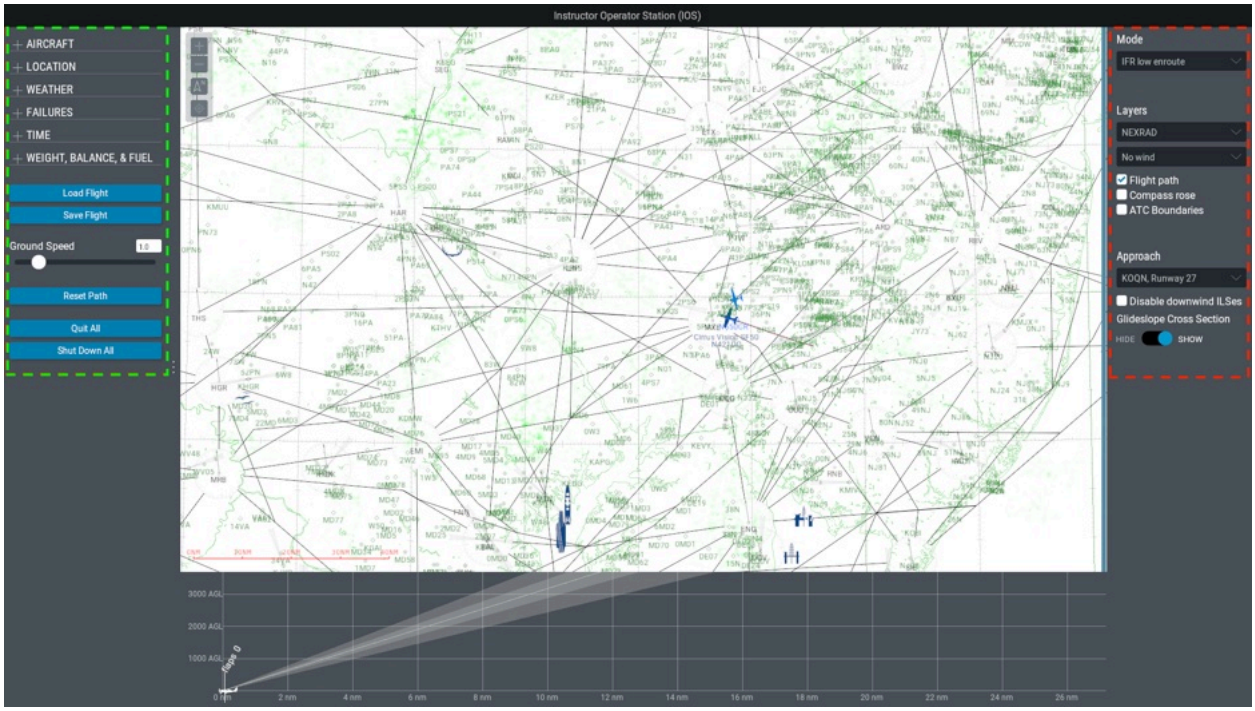
**** If any settings are ever changed, one must run the backup utility by double clicking on the 'X-Plane 12 - Back Up Preferences' icon on the desktop, AFTER shutting down X-Plane 12 and BEFORE starting X-Plane 12 again (or the settings will be overwritten).**

Instructor Station

The simulator system has two methods of interacting with an Instructor Station. Method one by default uses the Instructor Station screen found in X-Plane and configured to display on the Instructor station stand/monitor. The 2nd way is via a free iPad app called 'Control Pad for X-Plane 12'.

External Instructor Station

The default Instructor Station option with the simulator system is an externally connected 22" monitor mounted to a stand on the side of the simulator console. This monitor then uses the native X-Plane Instructor Station software which is configured during the system setup by RealSimGear. The main screen shown below, consists of a large moving map in the center that shows the current aircraft location, airports, airways, approach courses, and traffic. For more information, please refer to the X-Plane 12 documentation.



On the Map portion, you can see various airspace depictions, airways, airports, etc. While flying, the simulator will also add a 'breadcrumb' path showing where the airplane has flown. Any weather that is configured in the simulator will also be depicted on the map screen.

If the Instructor would like to quickly move the aircraft to another location, they can simply click/touch on the airplane icon, which opens up the relocation menu. In this menu, you can:

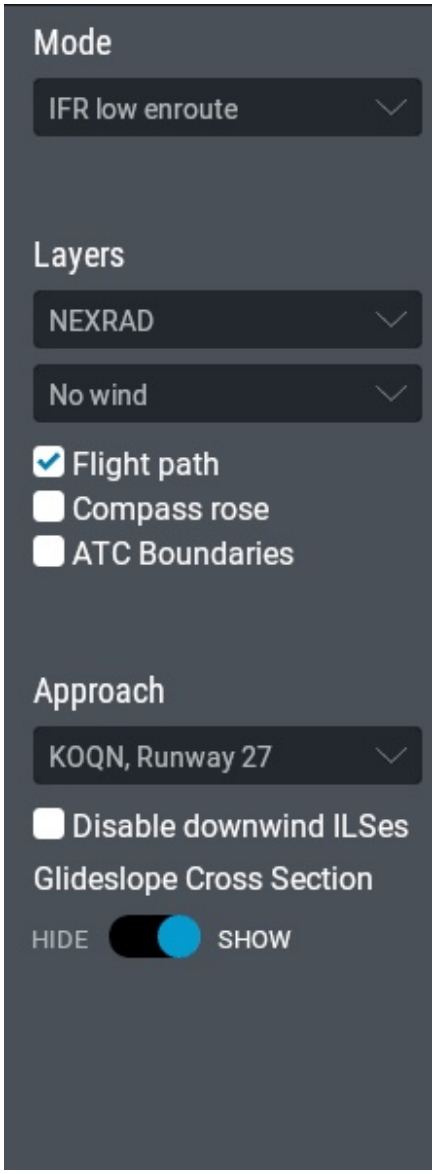
- Change the heading by moving the arrow or typing in a heading
- Set the altitude by dragging the slider or typing in an altitude
- Set the speed by dragging the slider or typing in a speed
- Set the pitch by dragging the slider or typing in a pitch
- Set an exact Latitude/Longitude if you desire

While this menu is displayed, you can also click/touch the aircraft icon on the map and simply drag it to a new location.

> ** Do be advised that if you do this without adding altitude, you can drag the aircraft into terrain which will cause a crash.

When done, simply click/touch anywhere else on the map which will close this menu.

The items on the right side (outlined in red in the above image) control what is seen on the map view.



- For the ‘Mode’ menu, choices include VFR, IFR low and IFR high map types
- Using the ‘Layers’ dropdown, one can add weather, traffic and wind overlays to represent the weather conditions configured in the system
- ‘Flight Path’ will create a “breadcrumb” trail of where the aircraft has flown
- ‘Compass rose’ will simply show a compass rose over the center of the map
- ‘ATC Boundaries’ will show the Class D, C, B boundaries of airports
- ‘Approach’ allows one to select the nearest approaches to the airplane which will show the appropriate glide path for that approach at the bottom of the screen
- ‘Disable downwind ILSes’ will turn off certain ILS downwind depictions on the map
- ‘Glideslope Cross Section’ when put on SHOW allows the depiction of the selected approach glide slope/path at the bottom of the map screen
- The items of the left side of the screen allow the instructor to modify

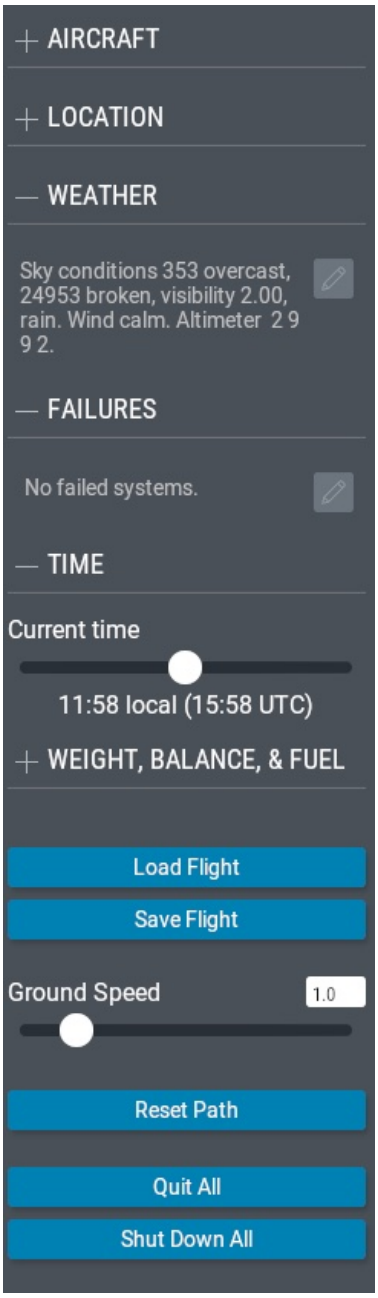
The items on the left side (outlined in green) control the simulation itself. Each item can be expanded by clicking on the "+" sign and the general operation is to click the edit button to open the individual items:

AIRCRAFT - This allows the Instructor to change the aircraft being flown

- Expand the menu, click the edit button, choose the new aircraft, and click Change Aircraft at the bottom of the menu to make the change

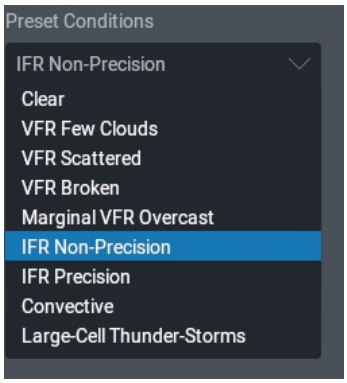
LOCATION - This allows the Instructor to change the location of the aircraft

- Expand the menu, click the edit button, select the airport through the use of the search bar, and click Change Location at the bottom to make the change

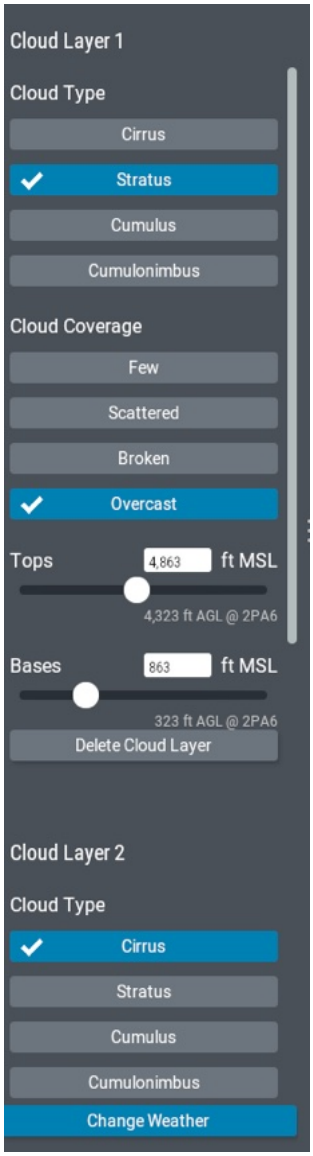


WEATHER - This allows the Instructor to configure the weather being depicted in the simulation.

- Expand the menu, click the edit button, and one can choose from pre-set weather conditions using the dropdown in the right corner or can manually set each weather parameter individually.

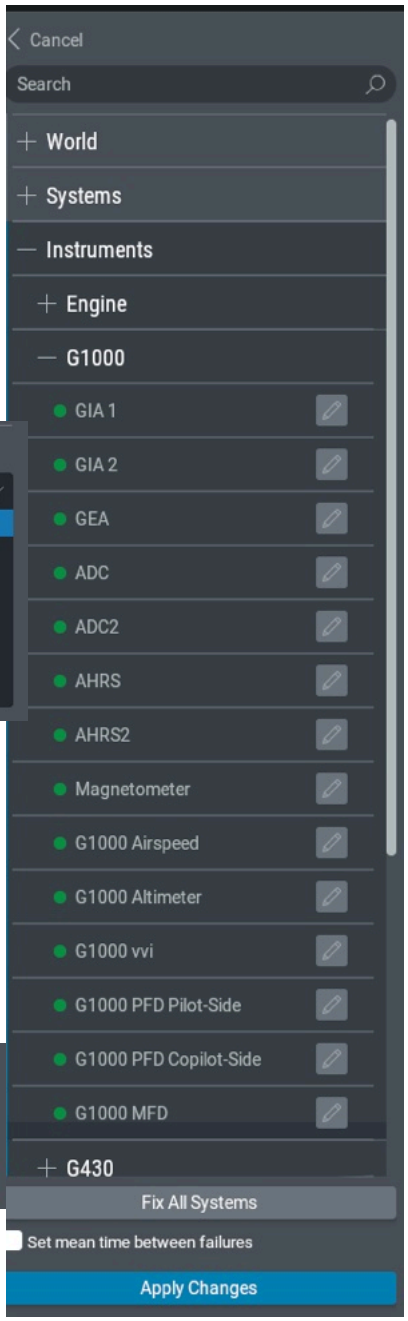


- Manually creating the weather is a bit cumbersome from this menu, but involves expanding each weather component, then modifying it as appropriate. Generally you can set the parameters and add layers. When finished with the manual modifications, click on the Change Weather button at the bottom to make the weather change.

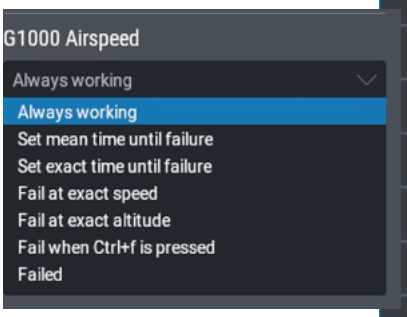


FAILURES - This allows the Instructor to configure failures in the aircraft during the simulation

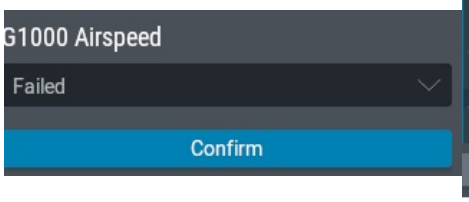
- Expand the menu, click the edit button which will expand to show all the failure categories. Expand any category to find the individual failures that can be triggered.



- Choose an item to fail and click the edit button. Choose one of the methods to trigger the failure from the list.
  - Failed - Fails the item immediately
  - Always working - Repairs the item
  - The other options will set the failure to happen at a certain time, altitude, speed, or minutes from in the future.



- Once the failure is set, choose the Confirm button.

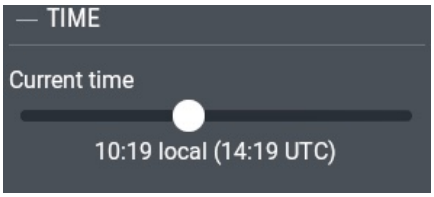


And then the Apply Changes button on the bottom to apply the failures.

- At any time if one wants to fix all failures without navigating through the items, one can simply choose the Fix All Systems button near the bottom, followed by the Apply Changes button on the bottom.

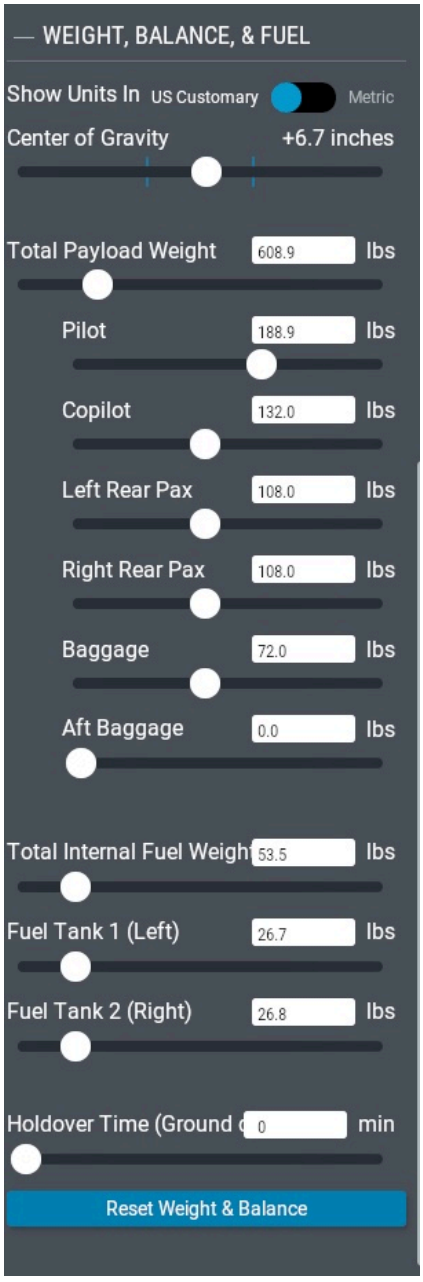
TIME - This allows the Instructor to set/change the time the simulation is depicting

Expand the menu and simply slide the time left or right to set the time.



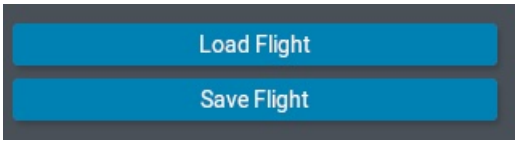
WEIGHT, BALANCE, & FUEL - This allows the Instructor to manage the weight and fuel loads and distribution of the selected aircraft

- Expand the menu and slide the appropriate slider to set the weights and fuel loads.
- To reset weight, balance and fuel load to defaults, select the Reset Weight & Balance button



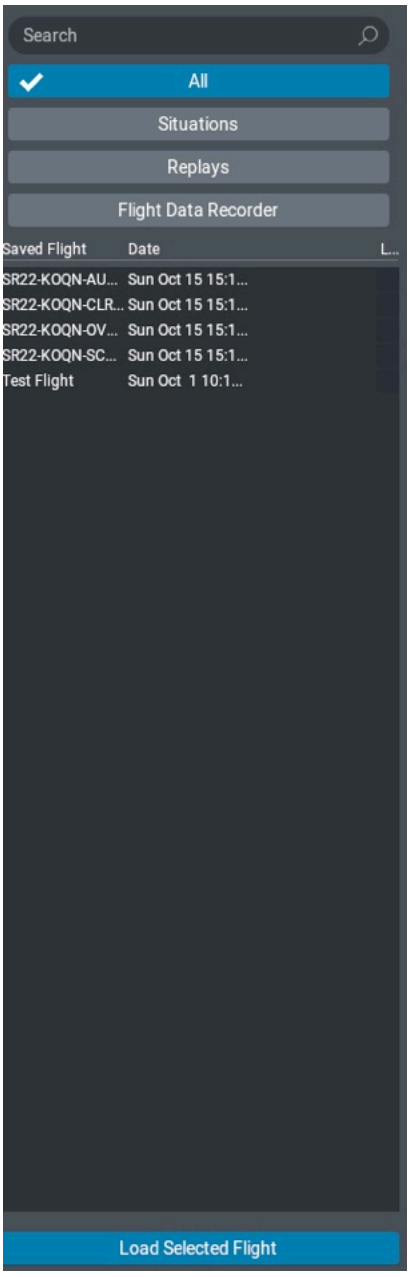
Load Flight - This allows the Instructor to select a pre-saved situation

- Select the Load Flight button and select a saved situation or replay from the list and then the Load Selected Flight button at the bottom.



Save Flight - This allows the Instructor to save the current simulation state to a saved situation

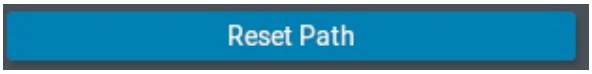
- Select the Save Flight button, select Situation or Replay, provide a name for the saved file and then the Save Flight button at the bottom.



Ground Speed - This allows the Instructor to speed up the speed the aircraft is traveling over the ground.

- Simply move the slider left or right to speed up the speed of the aircraft over the ground. **It's important to ensure this is set to 1.0 if/when doing any portion of a flight to be logged on any FAA approved system.

Reset Path - This allows the Instructor to reset the breadcrumb path generated by flight in the simulator

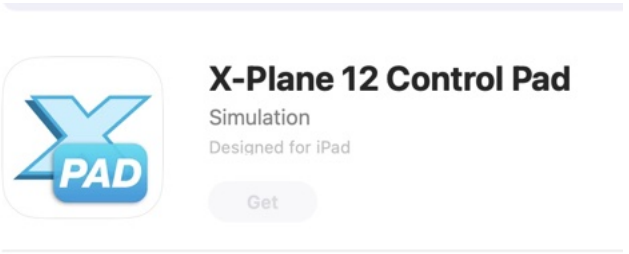


- This button will reset/remove the breadcrumb trail from the map.

Quit All - This will shut down X-Plane

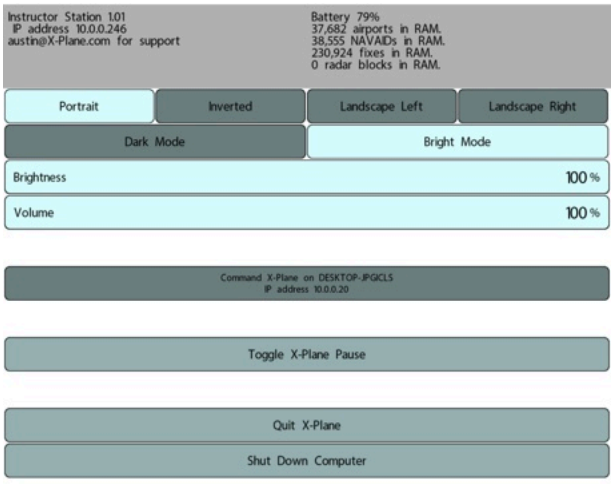
Shut Down All - DO NOT USE THIS OPTION - This will close X-Plane and attempt to shut down the computer system, but does not do a good job of Windows shutdown.

The SFx also has the ability to use an Apple iPad as an instructor station (iPad not included with system purchase). If you choose to use this option, you will need to source an iPad separately and install the interface application called 'Control Pad for X-Plane 12 ' by Laminar Research from the Apple App Store. This application is used to interface with the simulator software, X-Plane, and provide Instructor functionality such as setting time, weather, location, as well as control aircraft failures and track aircraft progress.

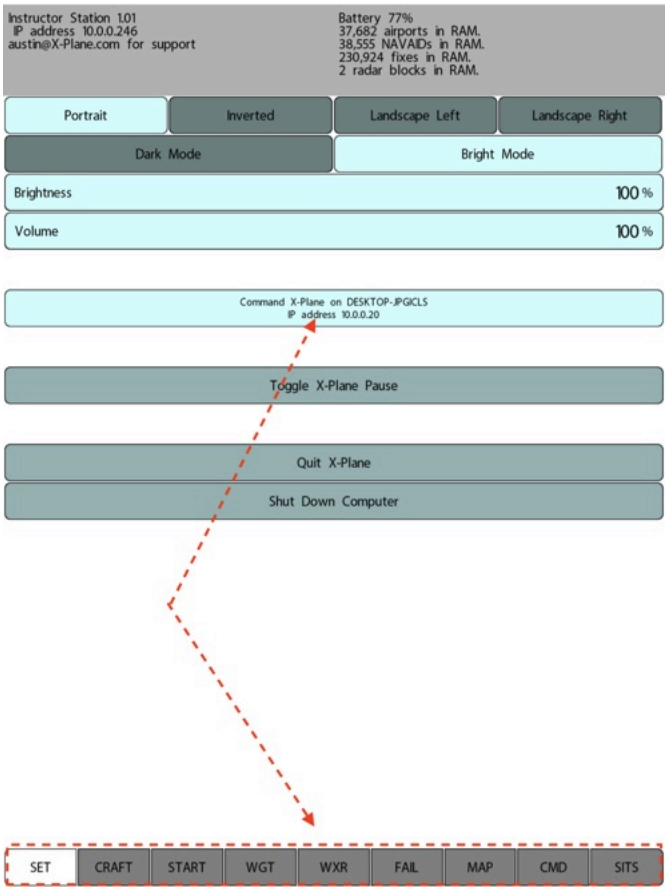


iPad Instructions

1. Power on the iPad by holding down the power button located on the top right side of the iPad
2. iPad is booting when the Apple logo is displayed, and will boot to the iPad home screen when finished
3. Once the iPad has finished booting, make sure the iPad is connected to the same Wi-Fi network as the simulator computer system.
4. Start X-Plane on the simulator computer system
5. Find and open the 'Control Pad' application from the iPad desktop
6. Choose the UI settings you are comfortable with



7. Once the Control Pad connects to X-Plane, you will have a button in the middle that says “Command X-Plane on ….”, select that button to take control of that system.

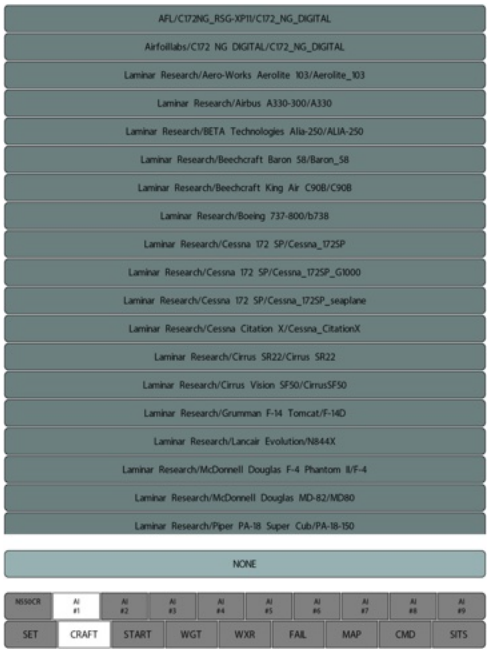


8. Once connected, you will have a number of options shown at the bottom of the ‘Control Pad’ screen. This SET option is also where an instructor can “Toggle X-Plane Pause” to pause the system.

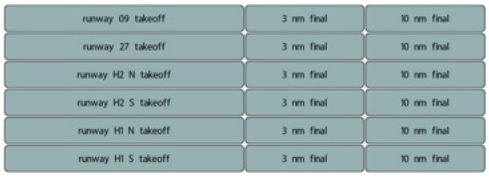
** Note do NOT use the “Shut Down Computer” option from the SET menu.

Once the Control Pad is connected to X-Plane, the Instructor can use ‘Control Pad’ to manipulate the flight parameters.

1. From the main X-Plane interface, start a new flight, choose the aircraft and location you want to use.
2. On ‘Control Pad’, choose options from the bottom menu to modify the in-simulator settings



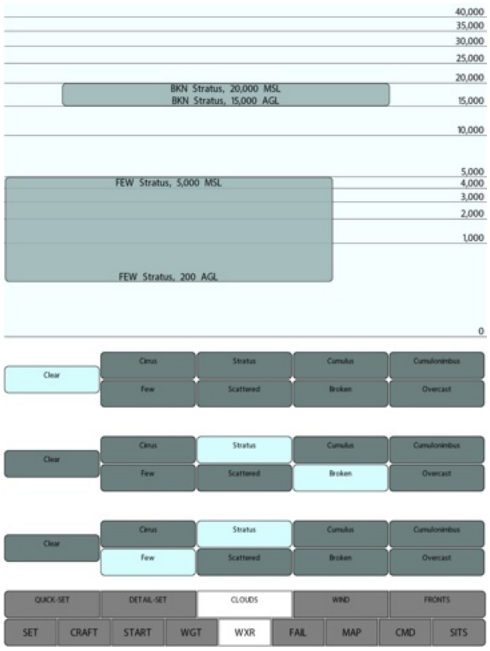
CRAFT - This allows the instructor to change the loaded aircraft. It is recommended this is done within the main X-Plane interface instead of via ‘Instructor Station’. When using ‘Instructor Station’, these changes can take some time and it may appear X-Plane is hung.

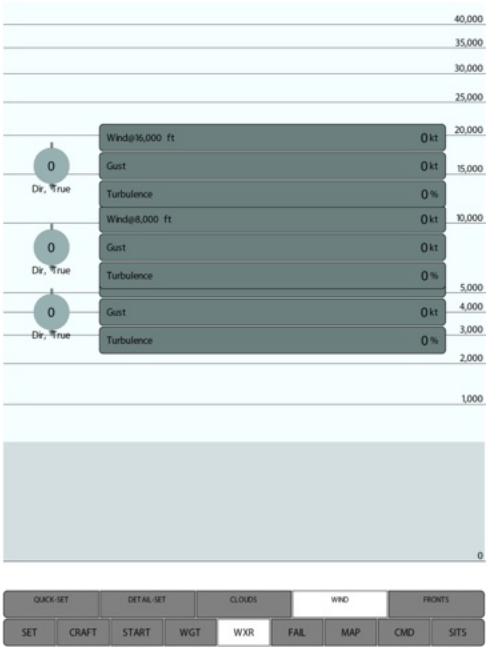


START - Select the airport and starting position. It is recommended this is done within the main X-Plane interface instead of via ‘Instructor Station’. When using ‘Instructor Station’, these changes can take some time and it may appear X-Plane is hung. Type in the ICAO of the airport you want which will then display a number of start options.

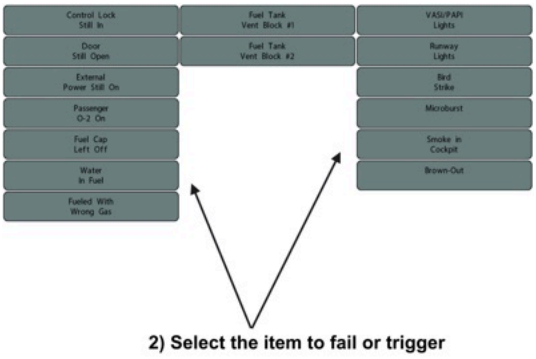
WGT - This allows the instructor to change the weight and balance for the aircraft.

WXR - This menu allows a number of different weather options to be set. There are pre-set weather conditions as well as the ability to create manual weather. The Map page also allows drawing of weather fronts by simply moving your finger across the iPad screen.

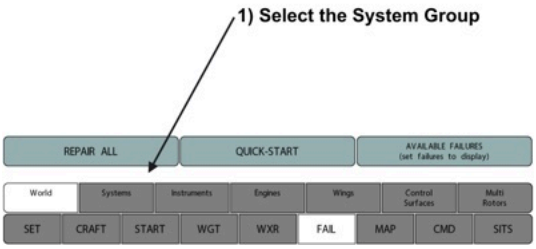




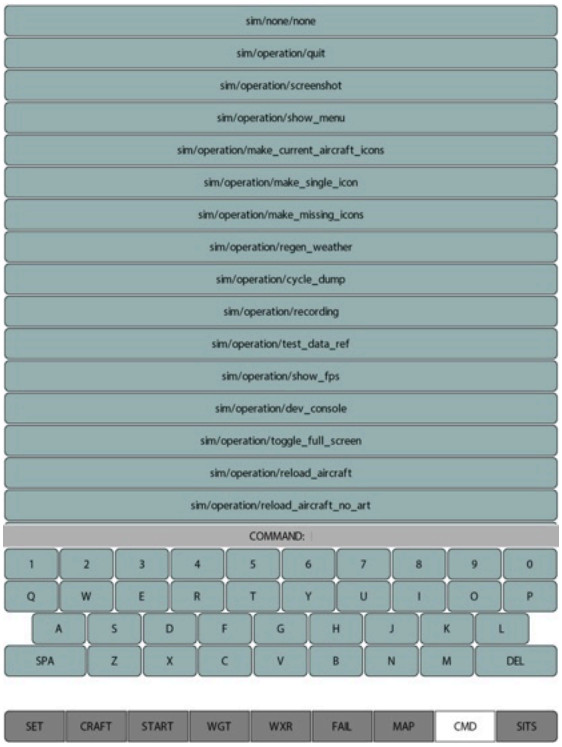
FAIL - This menu allows the instructor to fail a large number of systems in the aircraft. As you select each major grouping, the app will display the individual components that can be failed. Failing an item simply involves touching that item in the list, which will cause it to change color and fail immediately. To repair the item, simply touch it again and it will change back. To repair everything, select the “Repair All” button.



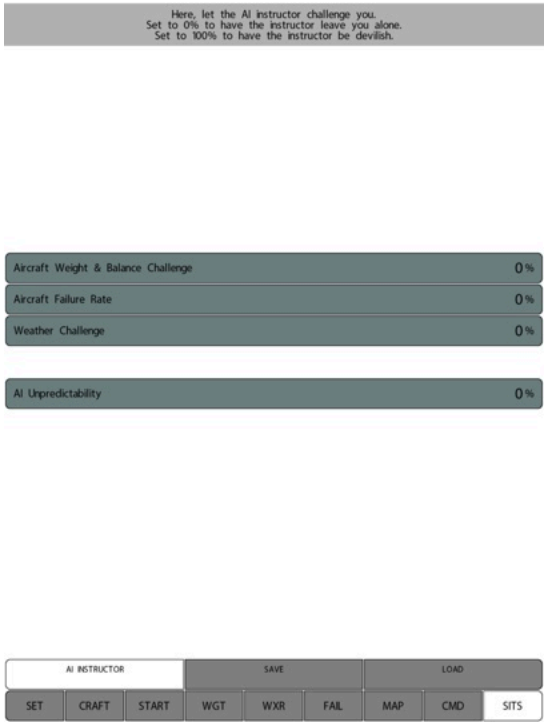
MAP - Allows the display of a moving map along with options to simulate the PFD view, show the glideslope (GLS) or set the aircraft location, altitude and speed (SET).



CMD - Manually execute X-Plane commands. Start typing a command and ‘Control Pad’ will search for matching commands



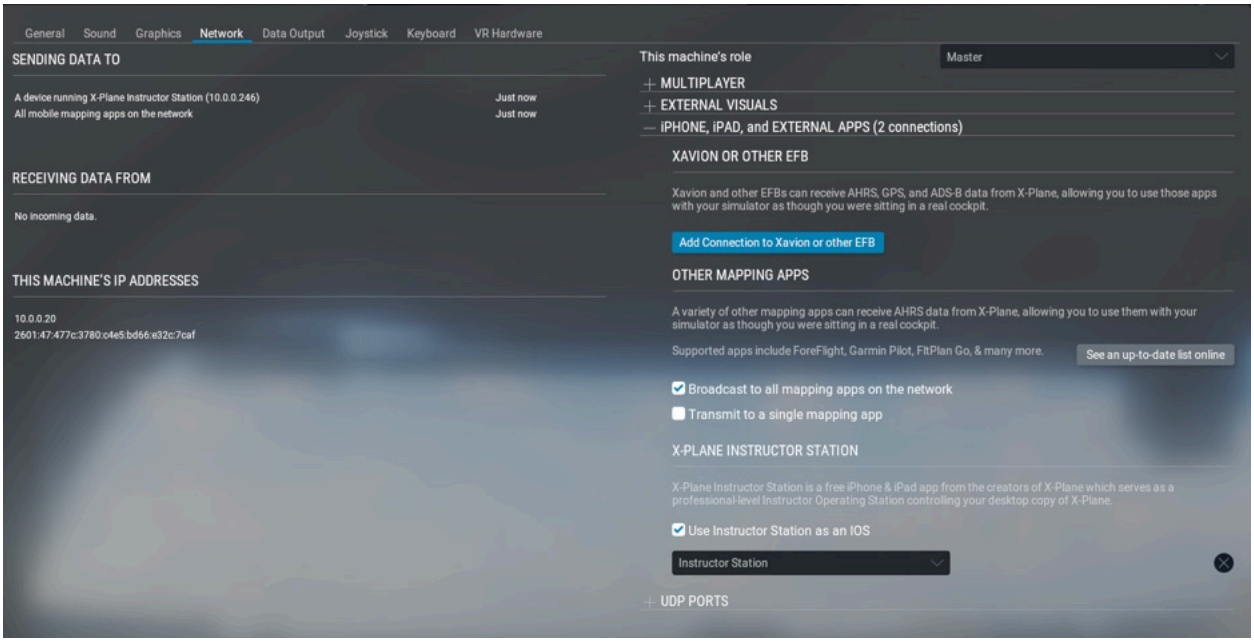
SITS - Save and load pre-built situations.



Connecting ForeFight to the system

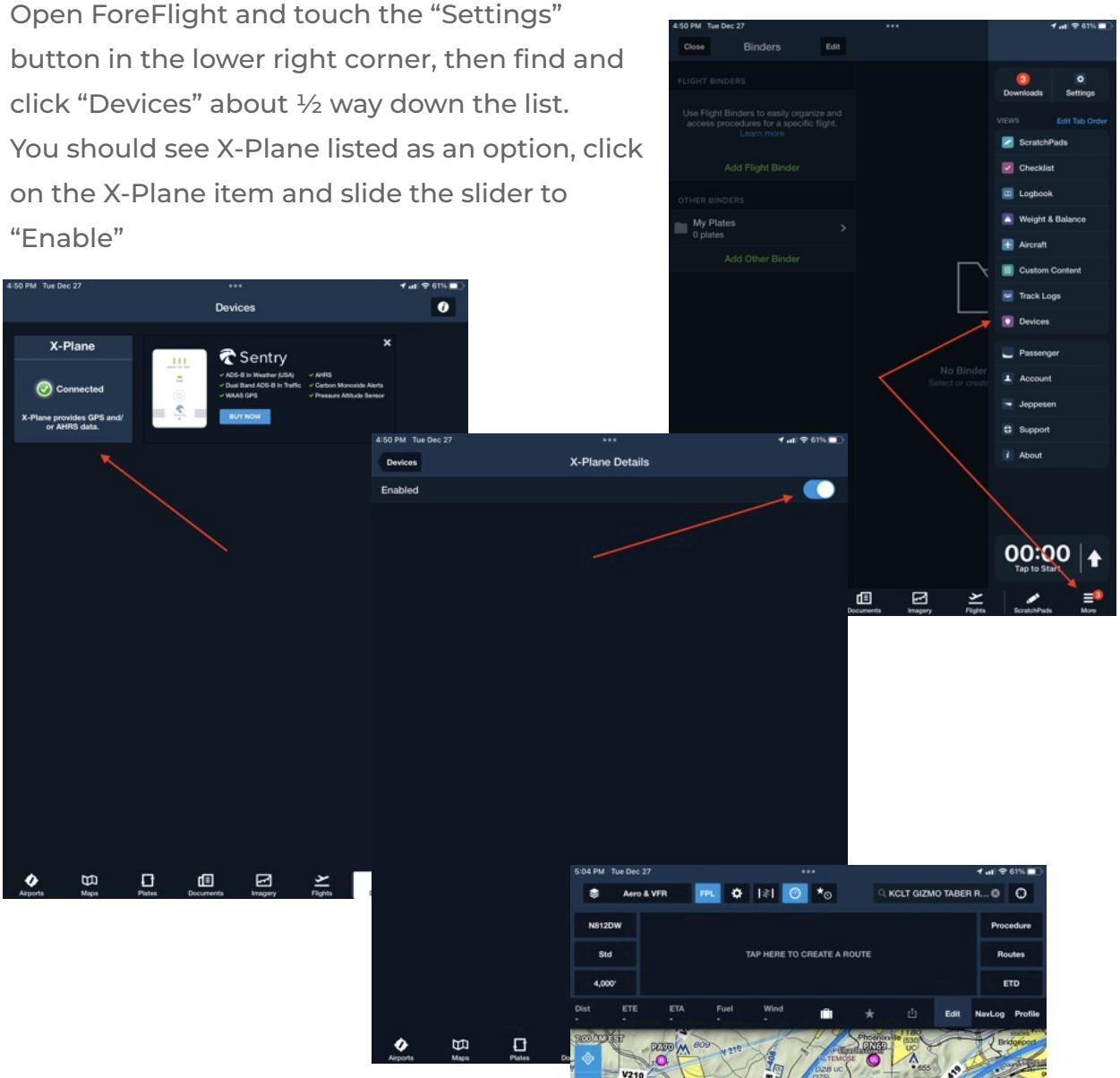
X-Plane includes a native feature to allow the connection of ForeFlight, Garmin Pilot, or a number of other EFB's. This provides virtually an identical experience to how the EFB works in a real aircraft. The following outlines how to connect ForeFlight to X-Plane; other EFB's are similar.

1. In the X-Plane > Settings > Network section, ensure that the "Broadcast to all mapping apps on the network" is checked



2. Connect your iPad to the WiFi network being broadcast by the SFx, which will typically start with "Mikrotik". Please contact RealSimGear support for the WiFi password on this network.

3. Open ForeFlight and touch the “Settings” button in the lower right corner, then find and click “Devices” about ½ way down the list.
4. You should see X-Plane listed as an option, click on the X-Plane item and slide the slider to “Enable”



5. Once set, if you go to the “Map” tab, you should see the aircraft location over the airport you are currently at in the simulator.

Additional Documentation

For additional information related to X-Plane 12 Pro and the instructor station, please refer to the X-Plane documentation by clicking on the shortcut on the computer system Desktop for ‘X-Plane 12 Manual’. The actual location of this documentation is typically at:

‘C:\X-Plane 12\Instructions’

Maintaining the Simulator

The simulator does not require much maintenance once assembled, but the following are recommended:

- When not using the simulator, please ensure the power button on the back strip is turned to the off position. This will ensure all equipment is powered down when not in use.
- When not using the simulator, it is advisable to cover the simulator panel, computer system, and monitor with a lightweight cloth to simply protect against dust. If the system becomes soiled, use a damp cloth to clean.
- Periodically Windows may update, you may need to approve these updates

** As part of an active maintenance subscription with REALSIMGEAR®, REALSIMGEAR® will perform periodic Windows updates, graphics card updates, simulator updates and aircraft updates.

Troubleshooting

The simulator system is a very robust simulation platform and will provide you years of trouble-free operation. However there are some things that can go awry at times, what follows are some troubleshooting steps for some issues.

System will not turn on

The SFx has a single power strip on the back of the simulator system that controls power to the simulator panel, the computer system, and the monitor. It also is protected by a resettable fuse, if the system fails to turn on, make sure the fuse has not popped, if it has, press it in to reset it. If the fuse does not stay set, contact REALSIMGEAR® support for assistance.

In addition to the main power strip, monitors have power buttons. Make sure all are turned on.

The simulator software (X-Plane) crashes for an unknown reason

X-Plane 12 is typically very stable. If for any reason you experience a crash to desktop (CTD), please locate the 'Log.txt' file in the 'C:\X-Plane 12' folder and contact REALSIMGEAR® support, providing that file, for assistance.

The Instructor Station iPad will not connect to the simulator

Ensure that the computer system and iPad are both connected to the same network, either via Wi-Fi or Ethernet.

Contact RealSimGear

In the event you experience any issues and need to contact REALSIMGEAR®, you can do so via the following methods:

- Phone - 858.263.0087 - Monday - Friday, 9:00am - 9:00pm, EST
- Email - support prosupport@realsimgear.com
- Website - http://help.realsimgear.com
- Intercom - Choose the Intercom icon from any of our  website pages

Our mailing address is:

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San Diego, CA 92123