



INSTRUCTOR STATION

by Luis Gordo

PROGRAM MANUAL

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The Instructor Station web site can be found at:
<http://luisgordo.googlepages.com/instructorstation>



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INTRODUCTION

This utility is meant to assist Aviation Professionals, Flight Simulation Enthusiasts and Home Cockpit Builders using Microsoft® Flight Simulator (FS) 2004™, FSX™ and ESP™, Lockheed Martin Prepar3D® and X-Plane®.

The 'Instructor Station' allows to set the aircraft on an approach to a runway of choice under any weather conditions, start-up and shutdown network computers (fully customizable), program or set aircraft system failures at any moment, calculate the amount of fuel required for a flight and load it to the aircraft, record flight performance (approaches, maneuvers, landings, take-offs, etc.) and plot it graphically, and many other things!

Compatible with all types of aircraft! It is also a great tool for anybody who wants to control the flight simulator externally.gra

Many features are also available for Project Magenta users (pmSystems, Glass Cockpit, CDU/MCDU, MCP/FCU) and AST users.

The Instructor Station program has proven to be very successful amongst the Aviation, PC Flight Simulation and Cockpit Building communities. Hundreds of aviation professionals and enthusiasts are using the Instructor Station all throughout the world: *Angola, Antigua and Barbuda, Argentina, Australia, Austria, Bahrain, Belgium, Brazil, Canada, Chile, China, Colombia, Costa Rica, Czech Republic, Denmark, Ecuador, El Salvador, Faroe Islands, Finland, France, French Guiana, Germany, Greece, Hungary, Island, India, Indonesia, Ireland, Italy, Japan, Kuwait, Luxembourg, Madagascar, Malaysia, Malta, Mexico, Netherlands, Netherlands Antilles, New Zealand, Norway, Peru, Portugal, Puerto Rico, Qatar, Republic of Korea, Romania, Russia, Saudi Arabia, Singapore, Slovakia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Trinidad y Tobago, Turkey, United Arab Emirates, United Kingdom, Uruguay, United States, Venezuela...*



This is just some of the excellent feedback from our customers:

- "Instructor Station is very interesting. [...] You are to be congratulated for your initiative and determination in making this a reality." John King - KING SCHOOLS (USA)
- "[...] You have probably created the best product in the history of flight simulation software (congratulations)." J.H. (USA)
- " [...] It is a wonderful and very helpful tool, reminds me of the admin station in the Level D simulators at the former Oxford aviation academy. In Addition to that, I have to give you credits for the support." U.S. (Sweden)
- "I am really impressed with iStation. Very powerful tool. Congrats." M.L. (USA)
- "Thanks a lot for that great piece of software !" S.W. (Germany)
- " iStation is a great product !" G.A. (USA)
- "Your program is excellent, I worked for Boeing in flight training/simulation for many years and it's as good as any I have seen!" G.A. (USA)
- "I have a little home cockpit and use this for IFR Multiengine training, so your program is a very good additional feature - many thanks !!" P.V. (Germany)
- "Thank you for developing 'Instructor Station'. It's a great tool in combination with FSX!" H.M.S. (Germany)
- "We have used Instructor Station now since February 2013, it's in use on our Cessna simulator at the Museum. Instructor Station is a big help in giving people a good experience in our simulator." F.A. (Norway)
- "A very good product. A must have." mvc340 (Spain)
- "Have installed the software and its great. [...] I have used VISPRO in the past, [...], but I find this software better." A.K. (Australia)
- "Thank you again for a **brilliant tool**. I'm a professional pilot with UK airline Flybe on the Dash-8 Q400 – this tool will really help me practice various things." K.I. (UK)
- "[...] I'm a pilot from Jordan , actually I don't know how to thank you because of this great effort you made for the flight simulation industry [...]" W.H. (Jordan)
- "It looks like you have really brought the software to the next level. Great job." T.H. (USA)
- "I believe your efforts with this and your IStation have been outstanding and just want to add my thanks along with all the others I have seen." J.J. (Canada)
- "This is a really cool piece of software! I love being able to provide a flight printout and map for friends who come over and fly heh."

- "I am a professional pilot and I use your tool to train with a friend of mine from time to time. iStation runs together with FSX , FSUIPC, WideFS and so far I am very content. [...] I really like the software!" H.M.S. (Germany)
- "We use Intstructor Station from Luis Gordo and vasFMC and it seems most functions of the pit are covered.
- "I recon this is a good and more or less complete setup. If you don't want to spend a lot of money on the instructor station this could be one way to go...."
- "I just purchased Instructor Station by Luis Gordo. Its priced really cheap for what it does! You can run it in demo mode for 3 minutes to test. [...]"
- "It'll work with project magenta, over a network, and packs a lot of stuff for the price! Check it out!"
- "This thing is freakin' AWESOME!" R.D. (USA)
- "I installed your Instructor Station on a networked PC and I like it very much. Every few months I visit full-flight simulators of LUFTHANSA flight training in Frankfurt, and the instructor stations of these simulators are very similar...".
- "Your program is excellent; I am a commercial airline pilot. I fly the ATR 42/72 for Farnair Europe." P.D. (UK)
- "Exemplary support and Great Product!"
- "I bought this software two weeks ago, and have had some time to play with it. And in my opinion it is worth every penny. This is the best deal out there to get a functional instructor station for very reasonable money. I have not tried some of the more advanced functions yet, but so far I am very happy with this program." I.H. (Norway)
- "Your software is very good! It is a real alternative to Project Magenta's instructor station!"
- "Wonderful and affordable flight instructor station software."
- "iStation is a lot of fun. As a pilot I appreciate all the features. It compares very well with the simulators we used at FLIGHT SAFETY." C.M. (USA)
- "You have a great program, keep up the good work." D.M.(USA)
- "I have tested your software with other add-ons (Sky env., Ground Env., etc.) and it works very well!"
- "The Weather setting is pretty cool & easy." E.K. (Germany)
- "I run both FS9 and FSX, but mostly FS9 and am glad iStation performs in both."
- "I think this is a great product. Absolutely love this." M.M. (USA)

- "This is a good program and I can see how an Instructor Station would really benefit from it. I look forward to the next version." W.M. (USA)
- "About your great software Instructor Station, I can tell you that it is really similar to the A320 Full Flight Simulator one. [...] I really think your software is an excellent tool for people like me; it helps your training as a pilot a lot." (Airbus 320 pilot) J.B. (Portugal)
- "I have been using your iSTATION for some time now and I just can't get enough of it. [...] By the way I just downloaded version 1.30 and I can't wait to start using it. The feature for starting the pmSystems seems to me terrific. Keep up the good work." A.L. (Mexico)
- "First of all, congrats! You made a very nice and useful product. [...]"
- "Thank you very much for your time, and again, for your wonderful program." A.D. (Brazil)
- "The first impression is that it is - in the true sense of the word - a great program." P.W. (Germany)
- "I am excited about your new software." A.P. (Australia)

5 of 5 Stars review @ FSPilotShop.com. Read it here:

http://www.fspilotshop.com/product_reviews_info.php?products_id=2109&reviews_id=3952

This is quite a unique tool. No other program has so many features combined in one and offers the same flexibility for the price. Compared to it's main competitors, our Instructor Station has the same features or more, but it's price is more than 10 times lower!!! Plus, it is usable by the entire flight simulation community, not only cockpit builders!!!

Try the fully functional DEMO and see for yourself !

<http://luisgordo.googlepages.com/instructorstation>

REQUIREMENTS

- System requirements. This program has been tested to work on a machine with the following characteristics:
 - Pentium III, 800MHz
 - 256 MHz RAM.
 - 100 MB minimum hard disk space.
- Microsoft Windows XP™ and Windows 7™ (also works on Windows Vista, Windows 8 and other operating systems, but these are currently not supported).
- Microsoft .NET Framework™, version 4.0 ([download @ Microsoft](#)).
- Microsoft Flight Simulator 2004™ and FSX™ (many features work on FS2002™, ESP™, Prepar3D® and X-Plane®, but these are currently not supported).
- Registered copy of FSUIPC (and WideFS for related features), by Peter Dowson.
- Project Magenta for related features. PM Airbus Type Suite: Glass Cockpit, pmSystems, FCU & MCDU (configured for A319/320/321; some features work for A330/340, but currently not supported).
- Aircraft Simulation Technologies (AST) for related features. AST Airbus Suite (A319/320/321). – Not fully functional.
- Network Card (will require Wake-On-LAN compatibility for network related features).
- Google Earth™, or another 3D earth browser (geo-browser) implementing KML encoding, for related features.
- XPUIPC for X-Plane® compatibility. Please note that XPUIPC is still beta (<http://tosi-online.de/First.html>), by Torsten Spiering.
- Optimum resolution: 1920 x 1200.
- Microsoft, Broadcom/Widcomm Bluetooth, BlueSoleil and StoneStreetOne Bluetopia Bluetooth stacks, for GPS data export via Bluetooth.
- Microsoft Speech SDK 5.1 (Windows XP).
- FLIGHT DATA RECORDER Mobile for iPhone/iPad, to use related features.
- Working Internet connection (for real weather downloading, license verification, etc.).



INSTALLATION & REGISTRATION

Simply run the “iStation_setup_v3.xx.exe” file and install to a folder of your choice.

To register the program, please purchase a LICENSE at:

<http://luisgordo.googlepages.com/instructorstation3>

Send your product CODE (will be shown when you run the program in the Login window) to luisgordo@gmail.com. After your payment is verified, a KEY will be sent to your email address.

Please bear in mind that the KEY is computer-specific, meaning that if you wish to install the program on another computer, you will have to send a new key request (at no extra cost; see EULA for details).

To run the application, double click on the “istation.exe” file. A window will appear showing a CODE and asking you to enter a valid license KEY. Please introduce here the key that was sent to you by email after your purchase.

If a valid KEY is not entered or the license cannot be verified (internet connection required), the program will run in Demo mode for 3 minutes.



MAIN FEATURES

Compare to its main competitors: The Instructor Station includes the same features or more, and its price is at least 10 times lower !!!!!

Visit our web page to download a detailed feature comparison.

The Instructor Station has the following main features:

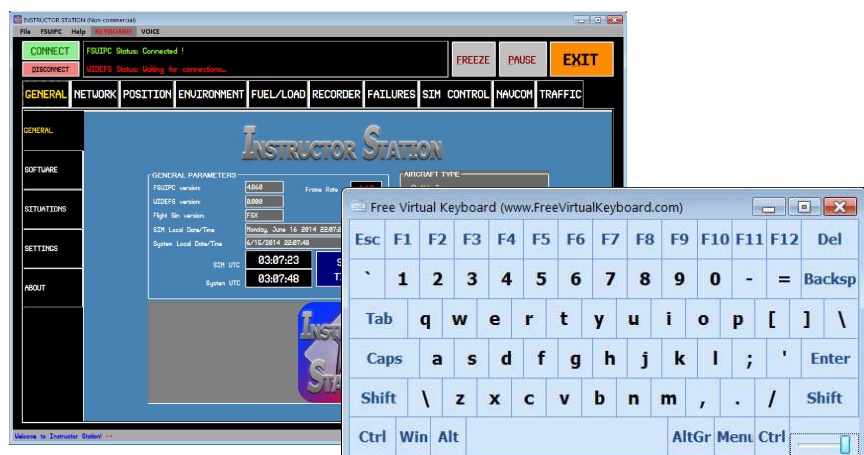
- Set aircraft at any desired position: on an approach to a selected runway, ready to intercept the ILS, holding position on ground for entering a runway, at an airport gate, at a navigation aid, on an airway, etc.
- Set weather environment to virtually any possible scenario, including VFR, MVFR, CAT I through CAT IIIc conditions, night, day, dawn & dusk, cross-wind, etc.
- Create failures instantly, with a time-delay or when reaching a certain speed or altitude:
 - Control surfaces: ailerons, rudder, elevator, block flaps, spoilers and gear.
 - Engine failures
 - Instrument & display failures
 - Hydraulic system failures, electrical failures, air conditioning & fuel failures (including tank leaks!).
- Create and save training scenarios and lessons (approaches, manoeuvres, etc.) and increase efficiency of simulator time usage.
- Quick and automatic aircraft start-up.
- Complete Simulator start-up & shutdown (controls all PCs in the network).
- Allows full external control of the Flight Simulator – ideal for a cockpit instructor station.
- Monitor and log approach performance, manoeuvres, etc. Variables that can be tracked include:
 - Position (latitude & longitude)
 - Altitude & Height
 - Speeds (IAS, TAS, GS)
 - Reference speeds (flaps full & clean configuration stall speeds)
 - Pitch, Bank & Side Slip
 - True & Magnetic Headings
 - Elevator Trim position
 - G-Forces
 - Engine parameters (N1, N2, RPM, manifold pressure...)
- All these variables can be plotted against elapsed time or against distance to runway threshold, and can be monitored in real time as flight progresses.
- Runway Approach plots (vertical & horizontal).

- Create performance reports in PDF, with maximum, minimum and average values of variables, flight events (flaps up/down, gear up/down, etc.) and other general information.
- Export flight path, nav aids and airways to Google Earth™ (KML file), allowing further performance assessment in 2D and 3D and with real satellite imagery (Google Earth™ features). Navigation aids are also exported to Google Earth™. Flight progress can be monitored after a flight is completed or while it is in progress. IAS and altitude are shown in real time. Flight events (gear up/down, flaps up/down, etc.) are also plotted.
- Tracker Window, with artificial horizon display and other data, to enhance instructor awareness.
- Enables control of the First Officer QNH settings by adjusting only the Captain QNH (project magenta).
- Enables Synchronizing the Flight Simulator time with the system PC time and with internet ZULU time servers.
- Works on any WideFS connected PC.
- On-Screen Keyboard for touch screen setups.
- Flight Freeze mode: allows stabilizing the aircraft at a certain position before executing a manoeuvre (i.e. an approach, etc.).
- Playback mode: review flight data previously saved, plot it, review in Google Earth, and resume a flight at any selected point in time.
- ATC communications: the instructor can now send ATC instructions that can be heard (text-to-speech technology) and/or read (text on FS window) by the pilot in the simulator.
- Export flight simulator GPS data via Bluetooth to external devices, allowing navigation applications to be used during simulated flights.
- Export flight simulator GPS data to ForeFlight Mobile via WiFi.
- Voice Control (beta).
- Flight Data Recorder Mobile: import data and audio from real flights or trips.

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- Real-time weather.

And many more...



HISTORY OF CHANGES



Version 3.01 – 30th June 2014

- Re-designed user interface.
- Added quick-set for setting TCAS alerts.
- Added COM2 radio control on NAVCOM tab.
- Real-life weather (METAR) retrieval (current weather) on ENVIRONMENT tab, from official FAA weather source. World-wide coverage.
- Added 2 extra layers of clouds to WXR Engine.
- ATIS/AWOS option to listen to current weather (*Speak-to-METAR* Engine).
- Added Flight Phase detector (real-time and post-analysis).
- Plots, reports and KML files can now be generated for specific phases or sections of a flight.
- Added ground altitude retrieval from Google Earth, for FDR Mobile data imports.
- Audio panel control added (COM1, COM2, NAV1, NAV2, MKR, etc.)
- Added HOLD page to the NAVCOM tab. Allows creating and exporting a HOLD to Google-Earth, visualizing recommended entry procedure according to current aircraft position.
- Re-designed program settings engine.

Version 2.13 – 2nd February 2014

- Included flag to show when XPUIPC is connected (connection to X-Plane)
- Modified aircraft repositioning coding in FSX and X-Plane for increased reliability.
- Added IFR Fixes and Intersections to the NavCom database – Aircraft can now be placed on an intersection, or at any distance from/to an intersection on any given direction.
- Added Airport Names to Runway/Gates and Runway Reference windows.
- Bug fixes.

Version 2.1 – 21st November 2013

- Added IFR and LIFR (low IFR) preset weather conditions in the Environment tab.
- Added engine for importing data and audio files from the Flight Data Recorder.
- Added simultaneous audio playback to Recorder tab.
- Extended maximum logging time to 10 hours.

Version 2.0 – 15th October 2012

- Meets all FAA requirements for approval in Advanced and Basic Aviation Training Devices, per FAA Advisory Circular AC 61-136.
- ForeFlight Mobile integration.
- Added Bluetooth functionality for GPS data export.
- Added Low and High Altitude Airways export and view in Google Earth.
- Added cross-wind component and lateral displacement tracking at touchdown, to assess crosswind landings performance.
- Added 'General Aviation Look' option to the Miscellaneous settings in the General tab, to better suit the needs of various users.
- Added Engine #1 and #2 RPM and manifold pressures to the data logger, as well as to PDF report.
- Added ATC communications window. ATC communications are sent to the event window when data is logged.

- Added playback capability.
- Added ILS and VOR monitoring to “tracker window”, including selected course and DME.
- Added slip/skid and turn rate indicator to “tracker window”.
- Added the TRAFFIC tab, where all airborne and/or ground traffic can be monitored, and traffic alerts (TCAS) can be generated.
- Added VFR and MVFR preset weather conditions in the Environment tab.
- Improved settings for VFR, Marginal VFR (MVFR) and ILS CAT I thru IIIc in the Environment tab.
- Added more options to the visibility setting in the Environment tab.
- Added preset selectable transponder codes to the NAVCOM tab.
- Added LBS and GAL option to the Fuel/Load tab.
- Added payload stations and weight and balance calculations to Fuel/Load tab.
- Renamed Views/Slew tab to SimControl, added Sound on/off and Situation Reset buttons.
- Added Voice Control (beta).
- Corrected several bugs.

Version 1.60 – 10th September 2011

- Added scroll bars to several windows (were missing in previous release). Useful when running under low resolutions.
- Added ability to position aircraft at any given airport gate.
- Added “On Ground” functionality to the “Position” tab, which sets the Parking Brakes and enables the “Freeze” mode when positioning aircraft on the ground.
- Flight events (i.e. gear up, etc.) are now plotted in Google Earth in real time.
- Aircraft altitude and speed (IAS) are shown on the Google Earth real time plot.
- Extended maximum logging time to over 3 hours (3 hrs and 20 min).
- Added warning message when inputting incorrect values in the “Position in FS” input windows.
- Added NAVCOM tab with navigation database and radio frequencies control.
- Solved bug with speed- and altitude-triggered failures.

Version 1.51 – 13th November 2010

- Flight Freeze button: puts the aircraft in a frozen flight mode – the aircraft will not change its position, but will fly. This allows stabilizing the aircraft in the selected position (i.e. before an approach).
- Tracker Window improved – several bugs fixed.
- Added environment “reset WXR input” function button.
- More events are logged in the message window (Recorder tab): gear up/down, flaps position, spoilers position/armed, etc. All these events will now be extracted to Google Earth (kml file) and shown graphically.
- Minor bugs fixed.

Version 1.50 – 6th December 2009

- N2, stall speeds & G-Force values are now tracked, logged and can be plotted, etc.
- Repositions relative to FS runways.
- Improved runway selector drop-down lists behaviour.
- Improved logging window functionality.
- Included possibility to set RWY conditions for use with TSR programs.
- “Tracker window” added, to enhance Instructor awareness.

- Real-time tracking of flight in 2D and 3D via Google Earth.
- Aircraft Simulation Technology (AST) compatibility (Airbus 32X series). – Not fully implemented.
- Updates to PDF report.
- Improved Failures (trigger failures when above/below altitudes/speeds).
- “Automated fuel distribution” added to main fuel tank page.
- On-screen keyboard included.
- Minor bugs fixed.

Version 1.30 – 28th March 2009

- Real-time data plots.
- KML export to Google Earth.
- Changed look (color set).
- Officially copyrighted version.
- Minor bugs fixed.

Version 1.25 – 29th October 2008

- ICAO Airport database for aircraft positioning included.
- Dawn, Day, Dusk & Night settings improved & working 100%.
- Slew controls available on “Views” tab.

Version 1.21 – 29th September 2008

- Fixed bug related to Elevator Trim in Position Tab, when using FSX.

Version 1.20 – 23rd September 2008

- Boeing 737 aircraft type included (“Position”, “Fuel/Load” & “Failures” tabs).
- Elevator will gradually fall down smoothly to zero when the option is set in the “General” tab, instead of falling abruptly to zero as before.
- Minor bugs fixed.

Version 1.10 – 20th August 2008

- Enhanced FSX compatibility.
- Aircraft coordinates (latitude, longitude) and distance to runway threshold are logged and can be plotted.
- Automatic logging feature when descending below 3500’ AGL added.
- Added variable plots against runway distance and also approach profile plots.
- Situation Load/Save now made available. Share your preferred and most challenging approaches with fellow flight-simmers!
- Approach Performance PDF Report added.

Version 1.00 – 29th June 2008

- Release version.

Version 0.8 – 20th June 2008

- Pre-release version. Testing under way and final code lines being added.

Version 0.5 – 27th May 2008

- Core code programmed, and 70% of all features implemented.

Version 0.1 – 2nd May 2008

- Initial development.

DESCRIPTION OF TABS

IMPORTANT NOTES:

For the Instructor Station to work properly, Dynamic Weather has to be turned OFF within Flight Simulator (“Rate of change: None”, in “World – Weather – Dynamic weather”, in FS2004).

Please remember to generate the “r4.csv” and “g5.csv” files suited to your Flight Simulator installation. Please find the instructions in the “Position” tab description.

If you change aircraft in Flight Simulator (FS), we recommend disconnecting and reconnecting the link to FSUIPC from the Instructor Station.

Under certain circumstances, several Positioning and Recorder features may not work correctly. If experiencing problems, we recommend setting the following Number Regional Options (Settings/Control Panel/Regional and Language Options):

- Decimal Symbol: “point” (.)
- Digit Grouping Symbol: “comma” (,)

Always save the KML file (Google Earth) to the Instructor Station main program folder. You will then be able to move it elsewhere.

In the upper menu bar, the following menus are available:

- File: allows to load & save program settings, as well as to exit the application.
- FSUIPC: connect & disconnect from FSUIPC.
- Help: Links to the Instructor Station home & License purchase web pages, as well as FSUIPC, Google Earth, Navigation Data & Free Virtual Keyboard web pages. Links to the US Aeronautical Chart Google Earth Overlays are also provided. Information regarding the Instructor Station is available clicking “About”.
- KEYBOARD: To cater all tastes, two main options are available for users requiring an on-screen keyboard (touch screen setups): Windows OSK and Free Virtual Keyboard. For the later size and opacity are configurable. For the Free Virtual Keyboard to work, the file “FreeVK.exe” has to be located in the Instructor Station program folder. It comes bundled with the Instructor Station, but if needed it can be downloaded from: <http://www.freevirtualkeyboard.com/>
- VOICE: Turns Voice Control ON or OFF.

Below the upper menu bar, the following indicators are shown:

- FSUIPC Status: indicates whether the Instructor Station (iStation) is connected to FSUIPC.
- WIDEFS Status: indicates whether iStation is connected to WideFS (only needed for installation of iStation on a remote computer).

In the upper right corner, the following buttons are provided:

- FREEZE: puts the aircraft in a frozen flight mode – the aircraft will not change its position, but will fly. This allows stabilizing the aircraft in the selected position (i.e. before an approach).
- PAUSE: turns FS pause on/off.
- CONNECT: connects to FSUIPC.
- DISCONNECT: disconnects from FSUIPC.

The tabs listed below are described in more detail in the following sections:

- GENERAL
- NETWORK
- POSITION
- ENVIRONMENT
- FUEL / LOAD
- RECORDER
- FAILURES
- SIM CONTROL
- NAVCOM
- TRAFFIC



VOICE CONTROL: The following commands can be spoken to control iStation without the need for keyboard or mouse. Please note that iStation uses Microsoft's Speech engine, so before using this feature the user must set up voice recognition and speakers in the Control Panel.

- Each tab can be selected by speaking the tab name as read on the screen (the only exception being the FUEL / LOAD tab, for which the command “fuel and load” must be spoken).
- “sync”, synchronizes the PC and flight simulator UTC times.
- “fore flight on” & “fore flight off”, turns the ForeFlight Mobile GPS export feature on and off.
- “runway”, opens the Runway/Gate window.
- “set position”, clicks the ‘SET POSITION’ button in the POSITION tab.
- “weather engine on” & “weather engine off”, turns the WXR Engine on and off.
- “clear weather”, presses the Clear WXR Weather button.
- “set weather”, will press the Set WXR button.
- “reset weather”, will press the Reset WXR Entries button.
- “dawn”, “day”, “dusk” & “night”, will set the corresponding conditions in FS.

- “VFR” & “Marginal VFR”, will set the corresponding conditions.
- “start log” & “stop log”, will start and stop the data logger.
- “data base on” & “data base off”, will turn the NAV database on and off.
- “radar on” & “radar off”, will turn the traffic radar on and off.
- “connect” and “disconnect”, will control the FSUIPC connect and disconnect functions.
- “exit”, controls the main iStation exit button.
- “pause” & “freeze sim”, control the pause and freeze buttons.
- The voice control engine recognizes the Morse Alphabet for input in the selected text box. Note that letters Q and P need to be spoken as such (“queue”, “pee”), as the official “quebec” and “papa” are not well recognized by the Microsoft Speech engine. Numbers from 0 to 9 are also recognized. The commands “left”, “right” and “center” can be spoken to reference runways.
- The following voice commands allow selecting aircraft positions in the Runway / Gate window: “cruise”, “hold left”, “hold right”, “numbers”, “left downwind”, “right downwind”, “left intercept”, “right intercept”, “15 mile final”, “10 mile final”, “7 mile final”, “4 mile final”.
- The following commands allow selecting buttons and text boxes, as well as activating controls (i.e. pushing buttons), and are self-explanatory: “enter”, “next”, “back”, “delete”, “backspace”, “up arrow”, “down arrow”.

The Voice Control feature is considered in beta stage.

GENERAL

This tab contains the following pages:

- General:
 - Aircraft Type:

Here you must set the aircraft type being flown. At this time, you can choose from the following:

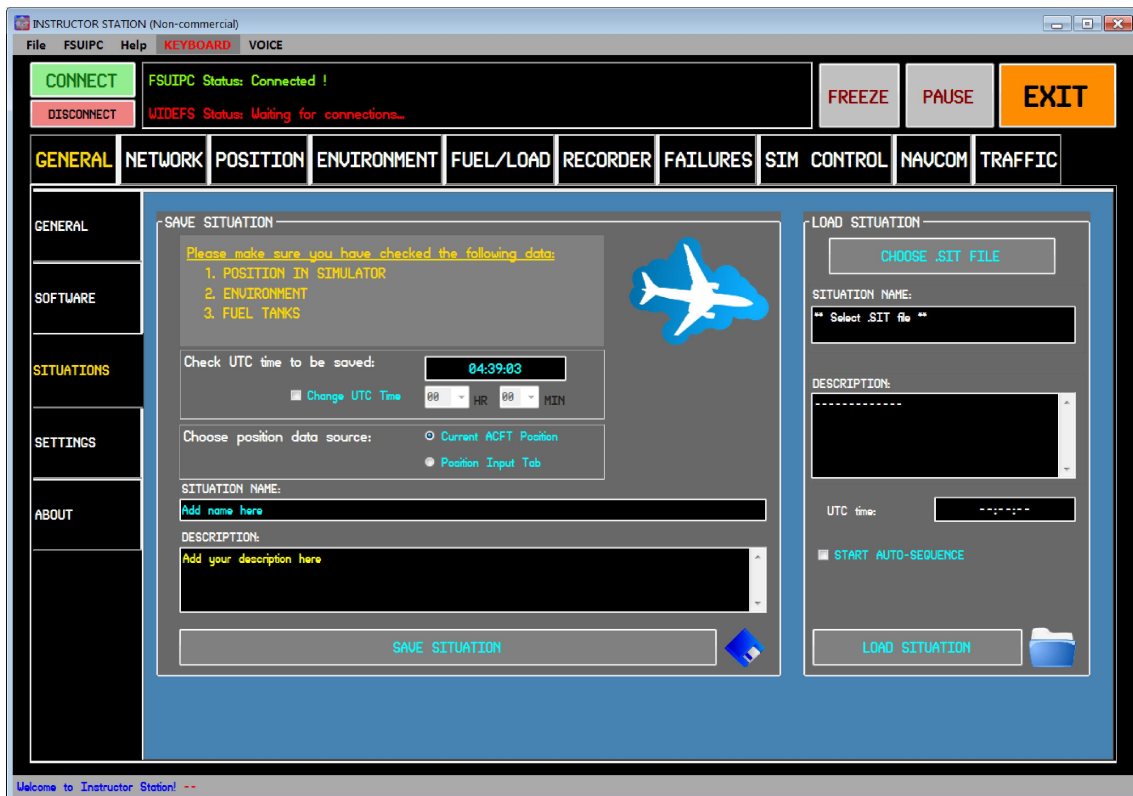
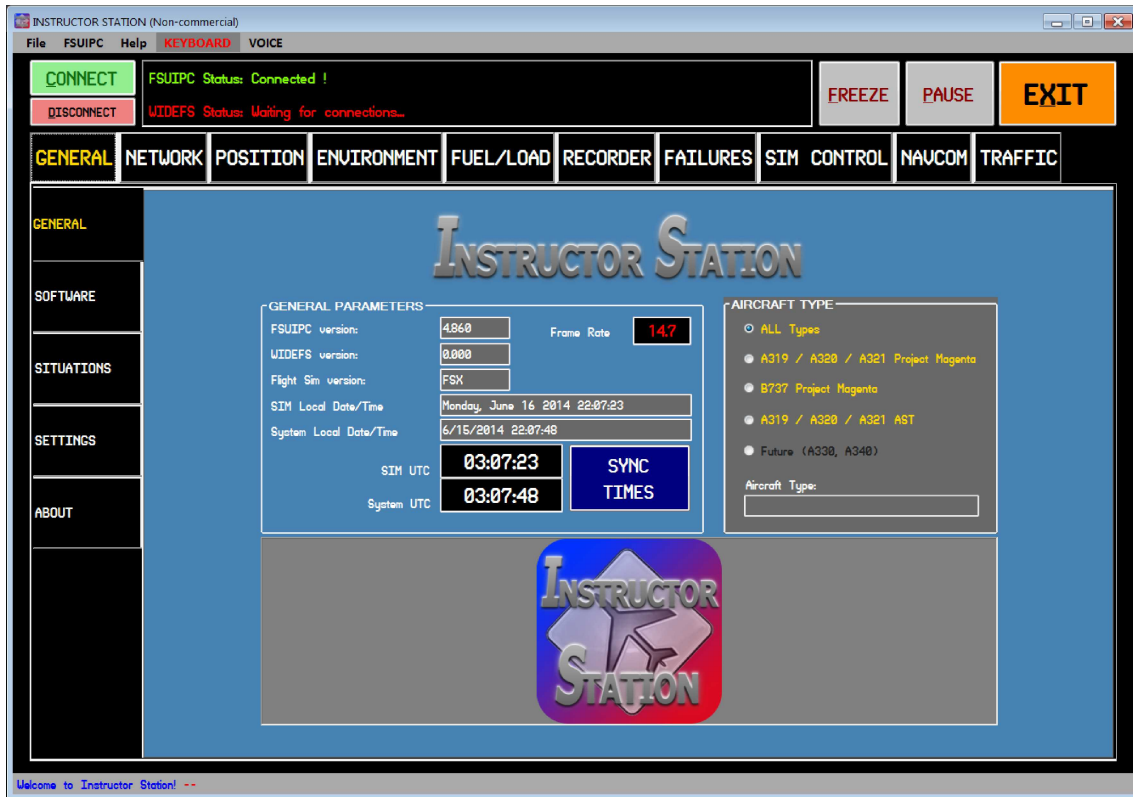
 - All Types: For ALL aircraft.
 - A319 / A320 / A321 Project Magenta: For the PM Airbus A32X family.
 - B737 Project Magenta: For the PM Boeing 737 family.
 - A319 / A320 / A321 AST: For the AST Airbus A32X family.
 - General Parameters: shows information regarding the FSUIPC, WideFS and FS versions, the simulator frame rate (FPS) and the local and UTC FS and system times. The “SYNC TIMES” button equals the FS UTC time to the real (system) UTC time).
 - Software: shows information regarding the different builds of the Project Magenta programs connected.
 - Situations: This enables you to save the settings for an approach (Position, Environment and Fuel) to use it later on and/or share it with other users. When saving, the desired UTC time can be fixed; also a name and description can be added. When loading a situation, the name, description and UTC time will appear. There is an option to automatically set the aircraft on the situation of choice (going through aircraft start-up, environment setting, positioning and time setting). Please note this may last some time, depending on the current state of the aircraft. For more flexibility, you can always just load the settings and follow all other procedures manually as desired.
 - Settings: You will here find the following options:
 - General Aviation Look: this will change some graphics to better suit general aviation users.
 - Airbus-specific:
 - First Officer QNH set equal to Captain side QNH. When checked, this sets the FO QNH equal to the Captain QNH side.
 - Airbus Flaps philosophy (this allows only flaps 1+F to be selected on ground, and change 1+F to 1 when above 210kts in the air).
 - Elevator trim set to zero @ touchdown (gradual reduction).
 - Data Recorder:
 - Auto Data Log when descending below 3500' AGL
 - Start recording as soon as connected.
 - Do not ask for confirmation to record data if recorded data is present.
 - Start-up: Enable specific engines upon connecting to FSUIPC.



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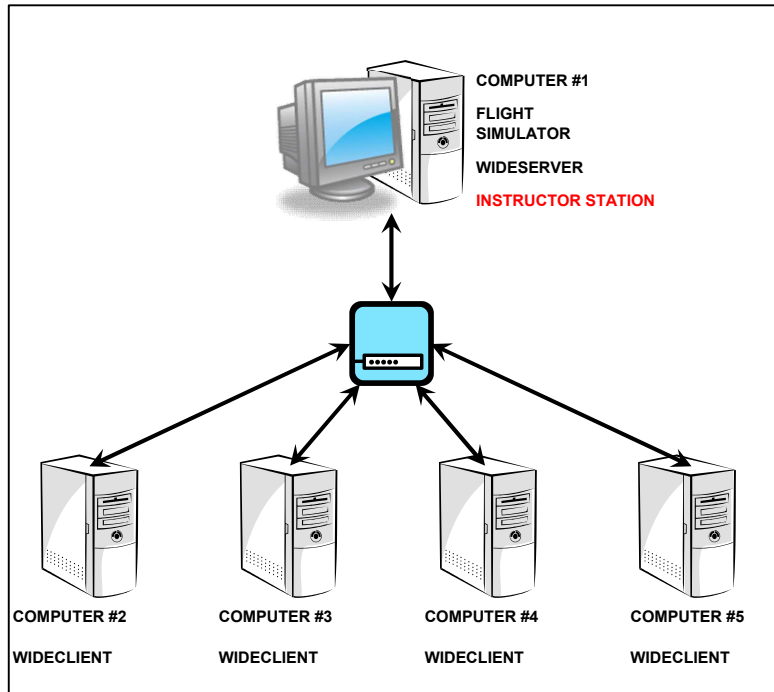
- About: Information about license type, remaining days and multiple links.



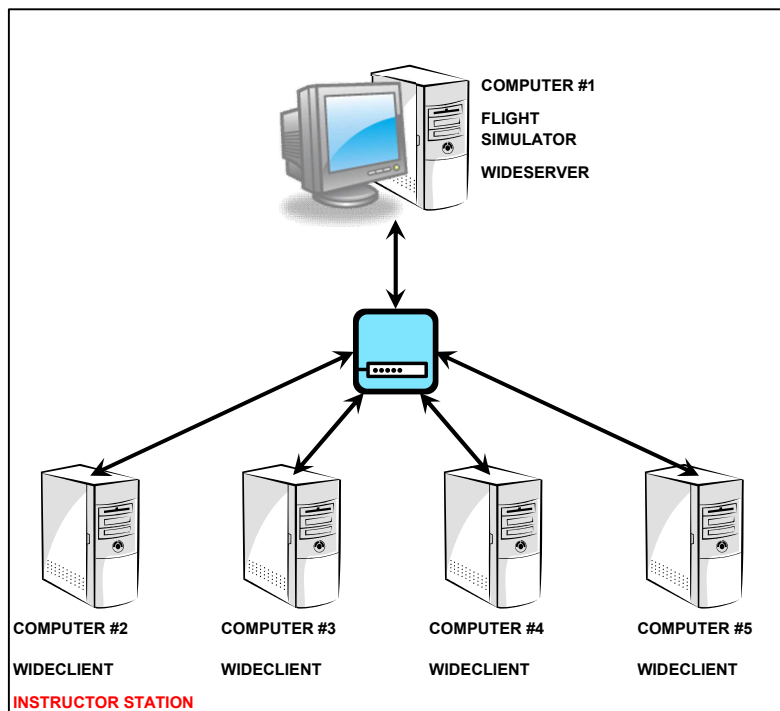
NETWORK

The Instructor Station can be installed on a single computer running MSFS (no network) or on any PC forming part of a WideFS network.

When running FS over a network, the Instructor Station can be installed either on the WideServer PC (the one running FS) or on a WideClient PC. See the following figures:



Option 1 – Instructor Station running on the WideServer PC



Option 2 – Instructor Station running on the WideClient PC

Via the NETWORK tab the following can be done:



- Start network computers remotely – REMOTE START:

The network computers information is to be inputted into the "PCList.txt" file. Please input as follows:

COMPUTER 1	→ Choose whatever name you want
0D00795F397E5	→ MAC address of the computer's LAN card
192.168.0.9	→ IP address of the computer
255.255.255.0	→ Subnet mask
7	→ Port number. Important when accessing from outside a network router (you should enable this port in the router). This setting is not important when running all computers and the Instructor Station in a local network.

COMPUTER 2
 [MAC Address]
 [IP Address]
 [Subnet mask]
 [Port No.]
 [...]

Here is an example:

```

COMPUTER ONE
0019DB6BA4FD
192.168.0.2
255.255.255.0
7
COMPUTER TWO
00805A62C8B6
192.168.0.3
255.255.255.0
7
  
```

Note that the format shown above needs to be respected (no dashes between digits in the MAC addresses, no blank lines between computers, etc.).

Once this file is set up, the list of computers should appear in the Instructor Station Network Computers window. By selecting a computer and clicking "Start selected computer", the selected computer should start up. Also, by clicking on the "Network maintenance (s/u all computers)" all the computers on the list will be started up.

IMPORTANT NOTE: Remote computer start up will work if:

- 1) The network card of each computer supports this feature (typically referred to as "Wake On LAN").
- 2) If the network card/BIOS of each computer is appropriately configured to work in this way.

3) If the computers are shut down via software (not using the on/off button), before trying to start them up.

Hence, the network card configuration in Windows will need to be checked to enable the WakeOnLAN feature. Sometimes, this feature will also need to be activated in the BIOS (depending on the system).

- Full control of the whole simulator – SIM CONTROL:

- START SIMULATOR: This button will start-up of all the network computers (as entered in PCList.txt), and will execute the file “STARTSIM.bat”. This batch file allows starting up any programs on the PC on which the Instructor Station is installed (you enter the path and file name in the batch file. Please see the “STARTSIM.bat” example file for reference).
- STOP SIMULATOR: Automatic shutdown of all the network computers, as well as associated simulation programs on the Instructor Station PC (again, please see the “STOPSIM.bat” example file for reference).
- Turn Network COMPUTERS OFF: This is done via WideFS, so all computers need to be connected to FS for this to work. Also, the “AllowShutdown=Yes” option is to be added to the WideClient.cfg files on clients. If the Instructor Station PC is wished to be kept running, the WideClient.ini on that PC should be set to “AllowShutdown=No”.

NOTE: To be able to use these features, you need to configure WideClient.ini files on clients appropriately (AllowShutdown=Yes). Please refer to the FSUIPC and WideFS documentation for more information.

- Control of software – SOFTWARE:

- Start Flight Simulator: This button executes the “STARTSIM.bat” file (can start up Flight Simulator as long as the Instructor Station is installed on the main PC). You need to enter the path and file name of the programs you wish to execute in the batch file. Please see the “STARTSIM.bat” example file for reference.
- Restart Wideclient Applications: Closes and restarts the programs run by WideClient in other computers.

At the bottom part of the tab, there is a log window, in which different messages related to the Network and other important program actions are recorded. You can save this to a file (tech support) or discard if wished.

How to control the Simulator completely from the Instructor Station?

Option 2 – Instructor Station installed on the main PC

This option will be discussed first, as it is the most common way the user will wish to proceed. First you will need to configure the Instructor Station to be able to start all network computers remotely. Please follow the instructions provided above under “Network Computers”.

Second you will need to follow these simple steps:

- 1.- To get everything you need fired up, you need to install WideClient on all of the Non-FS computers, and WideServer in the FS computer.
- 2.- Set the WideClient program to automatically run as soon as the computer is started. You do this by adding it to the Start Menu in Windows.
- 3.- Now you need to configure the WideClient program on each PC so that it runs all the software you need it to, once either FS is started (recommended) or immediately after WideClient starts. (You need to read the WideFS documentation for details, but this is very simple to do).
- 4.- Since the PC on which the Instructor Station is running is not the one on which Flight Simulator is on, set Flight Simulator to automatically run on its computer once the computer starts (put it in the Start Menu - Windows).
- 5.- On the Instructor Station computer you will need to run WideClient too. Hence, you need to replace the last 8 lines of the “StartSim.bat” file with the following:

```
echo Starting WideClient...
start c:\Widecl~1\widecl~1.exe
ping -n 1 127.0.0.1 >NUL
exit
```

Please note that you need to replace the highlighted text above with your corresponding path to WideClient.

These 5 steps lead you to have your simulator up and running! Now you will also want to shut the simulator down from the Instructor Station software, so follow these steps:

- 6.- You need to configure WideClients so that it accepts the "shutdown" signal sent from the Instructor Station. Again, please read the WideFS manual, but I believe you need to add the following in the User section of the WideClient.ini file (on each computer): "AllowShutdown=Yes".
- 7.- You will want to close the WideClient program in the Instructor Station computer, so you need to modify the STOPSIM.bat file as follows. Replace the last 4 lines of the file with the following:

```
echo Closing WideClient...
taskkill /F /IM wideclient.exe
ping -n 5 127.0.0.1 >NUL
exit
```

This should lead you to having all your computers off and no other programs running but the Instructor Station!

Option 1 needs to be configured the same way, except that step 4 is not necessary and in step 5 the STARTSIM.bat file needs to be configured so that Flight Simulator is executed from it.



ForeFlight Integration

The Instructor Station can send GPS input from the flight simulator to ForeFlight Mobile (v4.7.1 or newer) over a WiFi network. This requires ForeFlight Mobile v4.7.1 or newer on any supported platform. To enable this feature in Instructor Station, click on the “Enable FOREFLIGHT” checkbox.



To enable this feature in ForeFlight Mobile, first make sure both your iPad and Instructor Station machine are connected to the same local network. Then, run the Instructor Station and enable export for ForeFlight Mobile in the NETWORK tab (DATA EXPORT page). Run ForeFlight Mobile on the iPad and go to the More->Devices view. Tap iStation and set the Enabled option to Yes.

Refer to the Pilot’s Guide to ForeFlight Mobile for more information.





GPS Data Export via Bluetooth

The Instructor Station takes advantage of FSUIPC's GPSOut feature to export NMEA compatible GPS data to a navigation map application on another device (tablets, smartphones, PDAs, android, iOS devices, etc.) via Bluetooth.

The data is exported from FS by FSUIPC (for FSX and later) or by the DLL module GPSOut (FS2004 and earlier). Either way, the GPS data can be sent to a COM port on the FS computer, or to a COM port on a remote computer (via WideFS).

To do this, follow the steps below:

1. Set up a pair of linked virtual COM ports. A virtual serial port program (freeware) from MixW is provided by Peter Dowson with GPSOut, and can be downloaded from his webpage (<http://www.schiratti.com/dowson.html>). Note that the MixW virtual port program might not work on all systems. It does not work on Vista nor on 64-bit operating systems. For these, the easy to use and freeware utility "com0com" is distributed with the Instructor Station (located in the iStation installation folder) and is recommended to do this task. However, any other available 3rd party software can also be used. The "com0com" program manual is also distributed with the Instructor Station and is in the iStation installation folder. To download the latest version and for more information, please visit the "com0com" website : <http://sourceforge.net/projects/com0com/>.

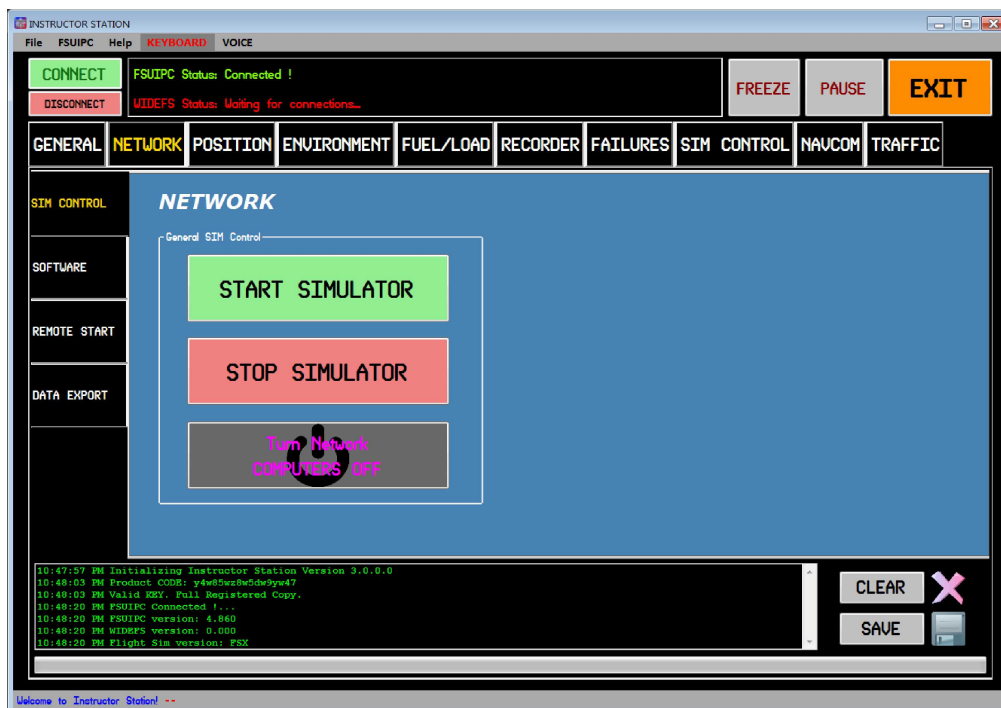
Note for Windows 7 users: Please refer to the enclosed instructions "com0com Installation_64bitHelp.pdf" for detailed help to install "com0com". If you remove Test Signing mode, the "com0com driver" will not work on 64-bit Windows 7. If you do not like the idea of running Windows in this test mode, you can purchase a signed 64-bit virtual serial port driver from Eterlogic: <http://www.eterlogic.com/Products.VSPE.html>.

2. Set GPSOut parameters: COMX port of the pair created above, (i.e. COM4, for example), baud rate & interval (typically 1000 ms). Please refer to FSUIPC's User Guide for more information. For FS2004 and earlier, GPSOut is a separate DLL that needs to be located in the FS Modules folder (parameters are set in the GPSOut.ini file). For FSX and later, GPSOut is part of FSUIPC4 (parameters are set either inside FSX, or in the FSUIPC.ini file).
3. Select COMY port of the pair created in step #1 above (i.e. COM5, for example), and matching Baud rate. This is accomplished in the subgroup "3. COM", and allows iStation to "listen" to the exported GPS data.
4. Select the external Bluetooth device to which the connection is to be established. This is done in the "4. BT Device" subgroup. Make sure the external BT device is turned on. Press "Discover ALL" to detect all devices, and wait until the Devices drop-down list at the top is populated. Alternatively, press the "Discover Remembered Only" button to populate the list with previously detected devices. Select the external BT Device from the list.

5. Activate BT Server and pair PC with external device. This is done in the “5. BT Server & Pair” subgroup. Service UUID should be set to “Serial Port”. Click “Activate Server” and status should change to ‘Listening...’. Connect (and pair, if needed) the external BT device to the PC Bluetooth antenna, and status will change to ‘Connected’.
6. Press GPS Export button. This is done in the “6. Activate GPS Export” subgroup, by pressing the “GPS Export to BT” button. This will stream the GPS location, heading, altitude and speed data to the connected device.

NOTES:

- a) At the date this manual is written, iOS devices do not support Bluetooth serial communication protocol. The only way to make this work is to jailbreak the device and install a program like RoqyBT, which will allow the GPS signal received from your PC to be used in any other program on the device.
- b) Tests have not been carried out in any other devices using other platforms (Android, Windows Mobile, etc.), but given the fact that these operating systems are generally more versatile than the iOS ones, and that the most common BT stacks are being supported on the PC side, this feature should work properly as well.
- c) For iStation to be able to export data, the PC must have a Bluetooth radio. If the PC is not so equipped, these radios are quite cheap to acquire and easy to install (connect to USB port). Make sure the installed Bluetooth stack is compatible with iStation (refer to the Requirements section).



POSITION

The POSITION tab contains the following boxes and buttons:

- PUSHBACK: Start and stop at any moment straight, left or right pushback manoeuvres.
- AIRCRAFT QUICK START-UP: Do a “quick start-up” of the aircraft (automatic overhead sequence), leading to automatic engines start-up in very little time. The sequence can be followed manually (for Project Magenta/AST users), or a totally automated sequence can be commanded. For other types of aircraft, this command is identical to pressing CTRL-E in Flight Simulator.



- SET POSITION:
 - Desired Latitude and Longitude can be entered in degrees and minutes or in degrees, minutes and seconds (select in the ‘Use Seconds?’ droplist). The ‘Current Pos.’ button will input the aircraft’s current coordinates in Flight Simulator.
 - Set the desired Altitude, Magnetic Heading/Course, Indicated Air Speed (IAS) and Elevator Trim (if applicable).
 - Set the aircraft position from the inserted Latitude and Longitude coordinates, by selecting from the following options in the ‘Set distance for APP (nm):’ droplist: No, 4, 7, 10, 15, 18 (ILS-R), 18 (ILS-L), HOLD L, HOLD R, R Downwind, L Downwind. These options set the aircraft on approach at the specified distances from the runway threshold (in straight-line approach, ready to intercept ILS localizer, etc.).
 - Select gear position (‘Gear up’ check box).
 - Select if on ground or not (‘On ground’ check box). This will enable a positioning sequence using Slew Mode upon pressing the ‘Set Position’ button.
 - The ‘SET POSITION’ button will place the aircraft on the selected position (coordinates, altitude, heading, IAS, gear position, etc.) and pause the simulator
- AUTOPILOT – FCU – MCP: Set Autopilot or FCU/MCP parameters according to the parameters set in the ‘POSITION IN FS’ box explained above (only works with the aircraft in the air).
- ‘BRK’ button: The ‘SET POSITION’ button will remove the aircraft parking brake. If the aircraft is being positioned on the ground, you may want to set the Parking Brake again. You can do so by pressing the ‘BRK’ button.
- ‘RWY/GATE’ button: will display a new window in which an airport and aircraft can be selected, as well as the aircraft position with respect to the selected runway or at a specific gate.

How to set your aircraft on an approach

The following steps have to be followed:

1. Set the aircraft at the runway you wish to land on.

The runway can very easily be selected with the "RUNWAY/GATE" button for positioning the aircraft on the desired runway. **For this feature to work, the "r4.csv" and "g5.csv" files need to be located in the Instructor Station main program folder. Please note that the "r4.csv" and "g5.csv" files provided in the package are for FS2004 and are simply included for fast use, but may not fulfil your needs since you may have add-on scenery or may be using FSX. If this is the case, please do the following:**

- a. Copy the "MakeRwys.exe" file to your main FS installation folder.
- b. Execute it and wait for program to finish execution.
- c. Copy the "r4.csv" and "g5.csv" files to Instructor Station's main installation folder.

This should provide you with a runway database that matches your FS installation perfectly. Please note that if you add/delete scenery from this point, you may need to follow this procedure again to update the database.

Note: When using the Runways database to position the aircraft, it may be necessary to press the "Set Position" button twice, to correct the heading for magnetic variation if your original position was very distant from the selected one.

This can also be done either from FS when starting, or if you have the runway threshold coordinates (longitude and latitude), they can be introduced at the "POSITION IN FS" box. In this last case, don't forget to insert the runway heading as well.

2. Configure MCDU/CDU manually.

Insert the approach in the flight computer (if your aircraft is equipped with one).

3. Quick start.

Assuming you start your aircraft in a "cold and dark" condition you won't want to go through the detailed start-up procedure each time you want to practice an approach. Routines are included to get your aircraft automatically started from the "cold and dark" condition. For the A320 family, go to the "PMSYSTEMS – QUICKSTART" box and press the "Automatic S/U sequence" button (optionally, you can drive the sequence step by step by clicking the checkboxes in order as they appear). For all other aircraft ("General" selected in the General tab), go to the "General ACFT S/U" box and press the "Automatic START-UP" button.

4. Position in FS.

In the "POSITION IN FS" box, enter the "distance to" the selected position at which you wish to start the approach. Please note that there are predefined values in the list box, but any value can be entered. 18 (ILS-R/L) indicate an 18 mile distance from the runway and set to intercept the ILS localizer from the right/left. Also set the altitude, elevator trim (set by default to 2 DN) and indicated airspeed. Also decide whether the gear is to be retracted or not.

Note: It is very important to select a correct value for the Elevator Trim, otherwise the aircraft may behave unexpectedly. If the value is too low, the aircraft will fall pitching

downwards, and if it is too high, the speed will fall abruptly and the aircraft will eventually stall. If you are not sure on which value to use, try different values and reset position. The correct elevator trim setting varies widely from one aircraft type to another, and also with fuel loading and aircraft load. For more information, read about the Gravity Center and the corresponding Elevator Trim setting in your aircraft's operating manual.

For this reason, it is recommended that after the aircraft is positioned, it is stabilized using the 'Freeze' mode before starting the flight.

Note: When setting the Autopilot parameters for "General" aircraft, it is necessary to click the "Set A/P parameters" button twice when the aircraft is equipped with autothrust (A/T), in order to command the aircraft to hold the inputted air speed.

A button for activating the aircraft's parking brake has been made available, and may become handy when positioning the aircraft on the ground, since the "Set Position" button automatically disconnects the parking brake.

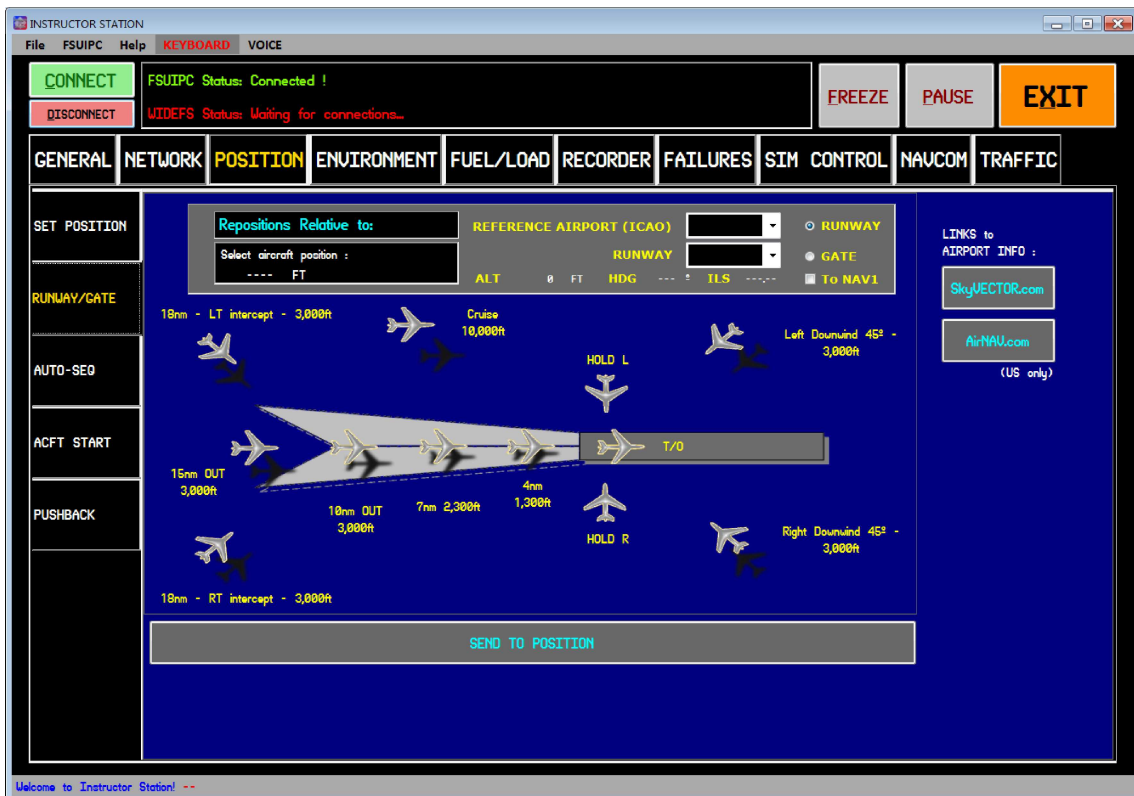
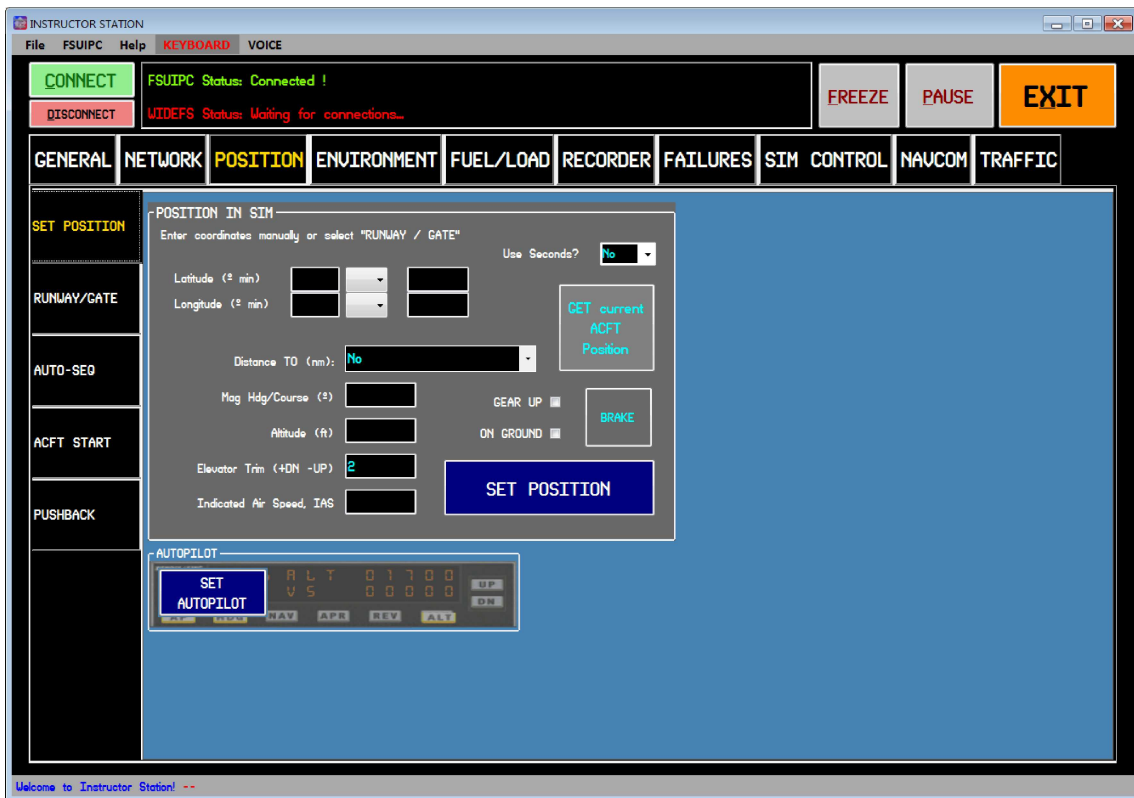
5. Set FCU / MCP / Autopilot

The settings fixed in the "POSITION IN FS" box are inputted into the FCU or Autopilot, by pressing the "Set AP/FCU parameters".

6. Set Thrust Levers to CLB position manually (airbus only).

You can either go through these steps one by one, or set everything up at the beginning and then press the "AUTOMATIC APPROACH MODE" to go through all steps automatically.

This program calculates great-circle distances between two points – that is, the shortest distance over the earth's surface – using the 'Haversine' formula. It assumes a spherical earth, ignoring ellipsoidal effects – which is accurate enough for most purposes... – giving an 'as-the-crow-flies' distance between the two points. The Haversine formula 'remains particularly well-conditioned for numerical computation even at small distances' – unlike calculations based on the spherical law of cosines. (It was published by R W Sinnott in *Sky and Telescope*, 1984, though has been known about for much longer; the 'half-versed-sine' is $(1-\cos\theta)/2$, or $\sin^2(\theta/2)$). Since the earth is not quite a sphere, there are small errors in using spherical geometry; the earth is actually roughly ellipsoidal (or more precisely, oblate spheroidal) with a radius varying between about 6,378km (equatorial) and 6,357km (polar), and local radius of curvature varying from 6,336km (equatorial meridian) to 6,399km (polar). This means that errors from assuming spherical geometry might be up to 0.55% crossing the equator, though generally below 0.3%, depending on latitude and direction of travel.



ENVIRONMENT

This tab displays different weather information: temperature, QNH, winds, clouds, rain/snow, visibility, etc., and allows modifying these parameters.

To turn the Weather Engine on, click on the 'WXR Engine ON' checkbox. IMPORTANT NOTE: Before turning on the WXR Engine, turn off the Dynamic Weather in FS2004.

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NOTE for FSX users: To be able to set the weather successfully within FSX, set the weather for a particular ICAO WXR Station, not globally. Global WXR setting does not work in FSX.

The WXR CONTROL box, located at the top: After setting the desired conditions, press the "SET" button to transfer them to the Flight Simulator. It is always recommendable to clear the existing weather ("CLEAR" button) before trying to set new conditions.

This tab contains the following pages:

QUICK SET:

- Preset WXR scenarios: this box allows setting VFR, MVFR, IFR or LIFR conditions, or an approach in the visibility conditions marked by the ICAO standards ([ICAO Annex 10 AERONAUTICAL TELECOMMUNICATIONS Volume 1 RADIO NAVIGATION AIDS 2.1.1](#)):

There are three categories of ILS which support similarly named categories of operation:

CAT I - A precision instrument approach and landing with a decision height not lower than 200 ft (60 m) above touchdown zone elevation and with either a visibility not less than 800 m or a runway visual range not less than 550 m. An aircraft equipped with an Enhanced Flight Vision System may, under certain circumstances, continue an approach to CAT II minimums.

Selecting a CAT I approach in the Instructor Station will set the visibility to 800 m.

CAT II - Category II operation: A precision instrument approach and landing with a decision height lower than 200 ft (60 m) above touchdown zone elevation but not lower than 100 ft (30 m), and a runway visual range not less than 350 m.

Selecting a CAT II approach in the Instructor Station will set the RVR to 400m.

CAT III A - A precision instrument approach and landing with:

- *a) a decision height lower than 100 ft (30 m) above touchdown zone elevation, or no decision height; and*
- *b) a runway visual range not less than 200 m.*

Selecting a CAT III A approach in the Instructor Station will set the RVR to 200m.

CAT III B - A precision instrument approach and landing with:

- *a) a decision height lower than 50 ft (15 m) above touchdown zone elevation, or no decision height; and*

5

- b) a runway visual range less than 200 m but not less than 50 m.

Selecting a CAT III B approach in the Instructor Station will set the RVR to 100m.

CAT III C - A precision instrument approach and landing with no decision height and no runway visual range limitations. A Category III C system is capable of using an aircraft's autopilot to land the aircraft and can also provide guidance along the runway surface.

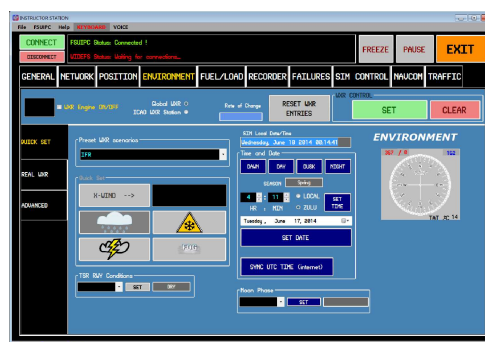
Selecting a CAT III C approach in the Instructor Station will set the RVR to 25m.

- Quick Set: this box includes buttons to quickly set to Stormy weather, rain or snow and foggy conditions. There is also a crosswind button, that pressed alternatively will set the wind to blow from the right or left of the aircraft, as indicated below the button ("RIGHT" or "LEFT").
- Time and Date: this box indicates the season of the year, and allows setting Day, Dawn, Dusk and Night conditions. The sunrise/sunset algorithms are sourced from Almanac for Computers, 1990, published by Nautical Almanac Office, United States Naval Observatory, Washington, DC 20392. Also allows setting any particular date and time (Local or Zulu). In addition, the date can be synced with an internet time server, for the precise time and date.
- Moon Phase: this feature calculates the closest date to the current system (PC) date in which the selected lunar phase occurs (new moon, first quarter, full moon or last quarter), and sets that date in the simulator. Moonrise and moonset times are not implemented at this time, and the user will have to set the time to the appropriate value (i.e. search for the moon throughout the daytime/nighttime). Algorithms are based on Basic code by Roger W. Sinnott from the Sky & Telescope magazine, March 1985.
- TSR RWY Conditions: Allows setting runway conditions for use with TSR programs (Dry, Wet, Wet 6mm, Slush 6mm, Slush 13mm, Snow 5cm and Ice).
- Wind/Heading Rose: by clicking on this area, a window will pop up displaying graphic and numeric indication of wind direction and aircraft heading. Wind speed and True Air Temperature (TAT) are also displayed.

REAL WXR: allows downloading current METARs (worldwide coverage), displaying flight category (VFR, MVFR, IFR or LIFR) and age in minutes. The selected METAR can be used as current WXR conditions, by pressing the "USE METAR" button, and the SET button afterwards (located at the top).

ADVANCED: allows inputting values for all the displayed parameters.

- WXR @ ACFT: displays the value of all the parameters at the aircraft at any given moment.



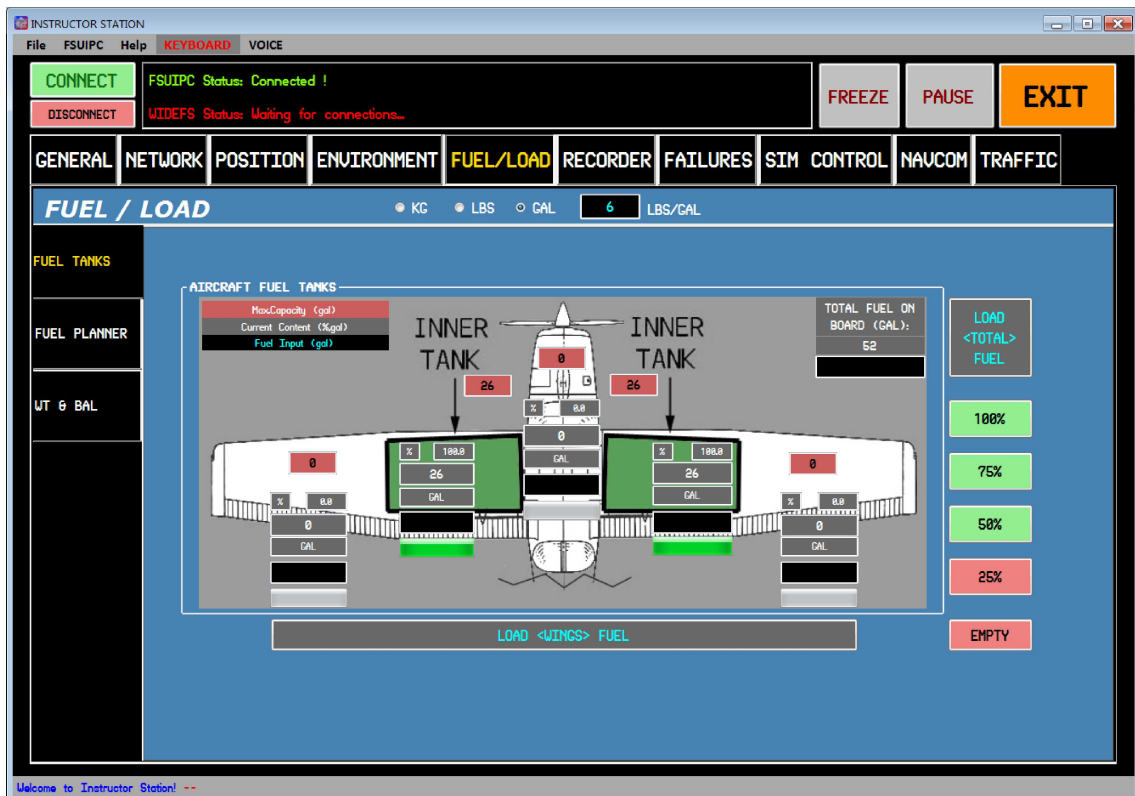
FUEL/LOAD

This tab has the following sub-tabs:

- **FUEL TANKS:** Displays the aircraft’s different fuel tank levels, and allows entering fuel quantities to any of them. There are options also to fully load or empty the tanks, as well as entering the total amount of fuel desired. Option is provided to display and enter quantities in kg, lbs or Gal.
- **FUEL PLANNER / LOADS:**
 - Fuel planner available for Airbus A319/A320/A321, Boeing 737-600/700/800/900 and Propeller aircraft (*). After all the required information is input, press the ‘CALCULATE FUEL FOR FLIGHT’ button.

When pressing the “Calculate Fuel for Flight” button, the needed fuel weight will be calculated based on the entered parameters (distance, winds, distance to alternate, etc.). Also, the planned take-off (TOW) and landing weights (LW) will be checked. If the values are found to be too high for the aircraft type selected, warning messages will appear. Upon pressing the “Calculate Fuel for Flight” button the currently loaded fuel will also be checked. If it is found not to match the calculated fuel, a message will be shown. If desired, press the “Load Fuel to Aircraft” button to load the plane with the calculated fuel. After doing this, press the “Calculate Fuel for Flight” button again, and the fuel loaded to the aircraft will be checked again (as well as the TOW & LW).

- **Weights:** Displays aircraft weights (ZFW, GW, etc.).



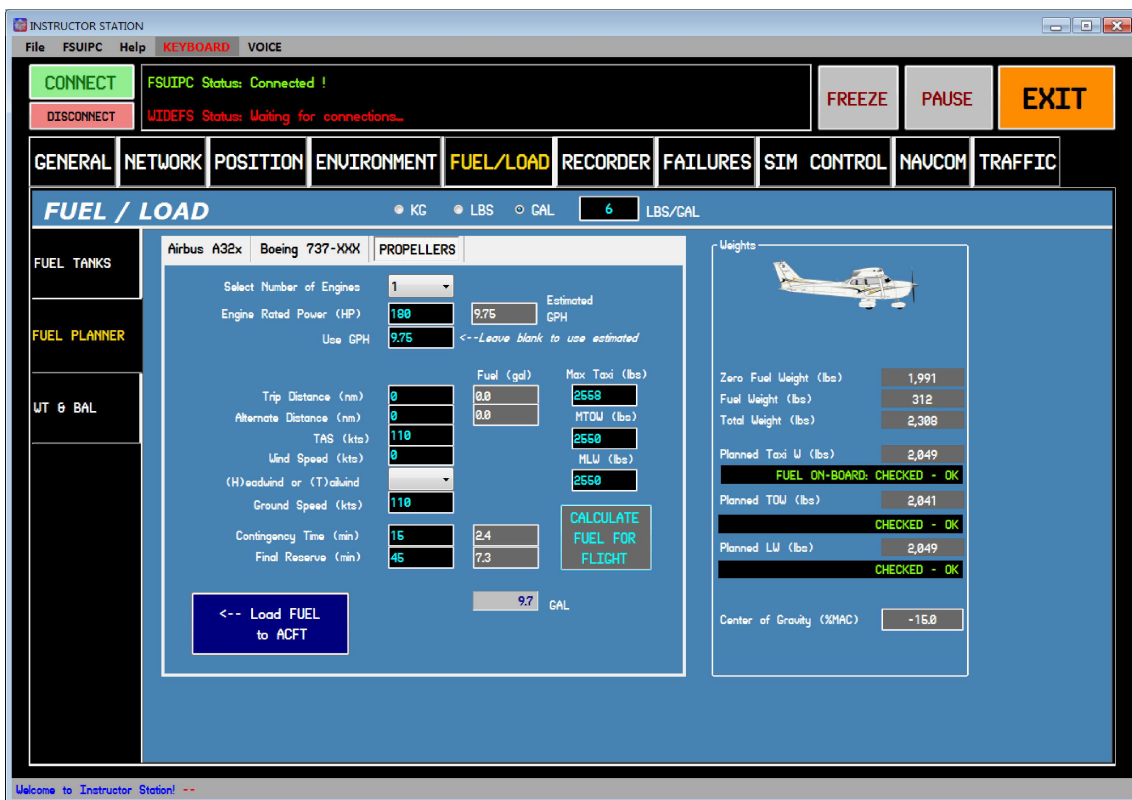
(*) Estimated fuel consumption for propeller aircraft is based on the following equation:

$$\text{Gallons per Hour (GPH)} = \text{Rated Engine HP} / 12 * 0.65$$

- WEIGHT & BALANCE:


This sub-tab comprises Payloads and a weight and balance calculation.

- Up to 18 payload stations can be viewed and modified here. Enter the desired weight of each station under the Input column, and press the “SET WEIGHTS” button.
- Enter the corresponding Arm values for each payload station, as well as for Fuel and Empty Weight. By pressing the “Calculate Weight and Balance” button, the moments for each payload station, as well as total moment, CG position and total weights will be calculated.



RECORDER

This tab contains the following pages:


- 
- ANALYZE: Allows monitoring and logging different aircraft data (altitude/height, airspeed, descent rate V/S, bank angle, pitch angle, etc.), which can be graphically displayed (against time “TIME PLOT” or against the distance to the runway “DISTANCE PLOT”).
 - FLT PHASES: This page will show the current flight phase in real time (with an ongoing simulator session). Possible flight phases are: Idle, Taxi, Take-off, Climb, Cruise, Descent and Approach & Landing. Note that the threshold values that help distinguish one phase from another can be modified in the tabs located to the right of the ‘Flight Phase’ window.

Alternatively, when a loaded data set is present, the different flight phases can be analyzed and listed in the ‘Flight Phases:’ list to the right. This list can then be used to select specific phases and analyze those phases with the tools on the ‘Analyze’ page.

- ACFT DATA: Shows the following information:
 - Position and Speed: Displays aircraft coordinates, as well altitude & height, speeds (IAS, TAS, GS) and vertical speed.
 - Attitude: Displays pitch, bank, headings (true & magnetic), elevator trim position and side slip angle.
 - Engines: Displays N1, N2, RPM and manifold pressure data for engines #1 & #2.

Special plots for monitoring the performance of approaches can be displayed with the “APPROACH PLOT”. Please bear in mind that to make these plots possible the program needs the runway threshold coordinates, which can be achieved by pressing “Select RWY for PLOT” and choosing the appropriate airport and runway. These plots can also be generated and followed in real time, showing the aircraft’s current position.

The graphical plot of this information can be sent to the clipboard, saved as an image or directly be printed. The information itself can be saved to a file (.DAT file) for future use in the Instructor Station. Currently, data is logged each 400 milliseconds (0.4 seconds). These plots can also be generated and followed in real time (data is refreshed each second). The maximum amount of time during which data can be recorded is 10 hours (36,000 seconds). After this time, a .DAT file can be saved and a new log started, if necessary.

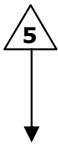


The “Create PDF REPORT” button will create a PDF document in which the variables (minimum, average and maximum values) and remarks of the whole or the selected portions of a flight will be displayed.

When logging data, alerts upon abnormal values of the parameters mentioned above or certain factors, specifically those mentioned below, will be triggered. Acoustic warning will be provided if the ‘Warnings Sound’ checkbox is marked.

- Vertical speed above +10,000 fps or below -10,000 fps.
- Bank angle exceeding 45°.
- Pitch up above 30° & Pitch down below 25°
- Landings (vertical speed, IAS, winds, heading & UTC & local time).

- Speed above maximum permitted for each type of aircraft & configuration (overspeed).
- G-Force above +2.0 or below 0.0.



The “Create KML Google Earth™” button exports the flight path data to a KML file, which can be viewed in Google Earth or in another 3D earth browser (geobrowser). Visit the following link for a list of applications using KML files: http://en.wikipedia.org/wiki/Keyhole_Markup_Language#Applications_using_KML.

Note that when clicking on the blue sphere to the right of this button, a window pops up showing the different options for the KML export: what to export (navaids, fixes, runways and airways), and if so whether only the ones closest to the aircraft’s path (45nm) should be exported or all of them. (Please note that when all navaids, fixes, runways and airways are exported, the output KML file gets quite large).

The navaids, fixes and airways are taken from the following database files: *earth_nav.dat*, *earth_fix.dat* & *earth_awy.dat*. These files are developed for X-Plane 9.00 & later (http://data.x-plane.com/get_data.html), and are taken from real life database sources, such as the US National Imagery and Mapping Agency (NIMA) Defense Aeronautical Flight Information File (DAFIF) and from the FAA’s National Flight Database. Please visit the above link for updated database files.



All the plots described above can be monitored in real time (use buttons located in the “real-time” box). data is refreshed every second to these displays. Also, monitoring of the flight in real time using Google Earth is possible. Click on the “START export to Google-EARTH™” checkbox to enable this feature, and then click on the “OPEN Google-EARTH™” button just to the right. This will open the real time data access in Google Earth. Note that by clicking on the same blue sphere described above, a window appears, allowing a “one-time export” to Google Earth of the desired navaids. Again, data sent to Google Earth is updated each second. The folders that will appear in Google Earth are as follows:

- Flightpath view: allows free panning of the flightpath data.
- Chase view: will automatically pan the flightpath data for a complete view from above.

Note that for a smooth viewing experience, both views described above should not be “active” at the same time.



To monitor data in Real-Time, the “START” button needs to be pressed (Recorder needs to be working for any real-time features to work). This is not needed when using the “Tracker Window”.

- “TRACKER WINDOW”: this button will open a new window displaying useful data to follow the flight progress, including an artificial horizon, an aircraft heading and wind speed/heading indicator, gear position, on-ground/airborn indicator, flaps and spoiler position, brake on/off, engine data, altitude and height, QNH, indicated airspeed and ground speed, overspeed/stall indicator, glideslope/localizer tracking information, name of station tuned in NAV1, selected course, radar altimeter, DME, rate of turn, slip/skid indicator, etc. This window can be dragged placed on a second monitor (or on the main monitor) effectively increasing the awareness of the instructor.



- “Import FDR MOBILE”: this button will open a new window to import data created by the Flight Data Recorder Mobile (FDR) iPhone/iPad app.

The FDR import data window is divided into 3 different sections:

- a. IMPORTED DATA INFORMATION – contains the name, date, tags, cumulative distance and total time recorded for the loaded file. It also will display if data has or has not been loaded, and whether audio is available or not.
- b. PLAYBACK and TRIM – contains a slider and playback buttons, to be able to trim the recorded data, as desired. If audio is available, it will be played and visual indication will be displayed on the left hand window.
- c. OPTIONS – contains the following options:



- i. Use Course as True Heading – (Recommended). Unless the iPhone/iPad are held in a fixed position throughout the whole trip, chances are the true heading information will not be very reliable. It is recommended to use the course information in this case.

- ii. Clamp Negative Heights to Ground (Recommended) – Self explanatory.

- iii. Use Ground Speed (GS) as Indicated Air Speed (IAS) – (Recommended). As the Flight Data Recorder application receives no air data information, the only speed recorded is ground speed. The advantage of transferring that information as IAS into iStation is that the speed will be displayed in Google Earth in real-time playback sessions.



- iv. Correct sudden speed drops (Recommended) – this option serves the purpose of correcting sudden speed drops in recorded data, due to inaccuracies in recording device.

- v. Trim Audio and Data – Select this checkbox to trim the data an audio per the start and stop values preset in the window described above.

- vi. Enter ‘Dirty’ Stall Speed – Aircraft’s dirty stall speed can be entered here, so it appears on the corresponding plots.

- vii. Enter ‘Clean’ Stall Speed – Aircraft’s clean stall speed can be entered here, so it appears on the corresponding plots.

- viii. Correct GPS Altitude with Departure Field Elevation – See discussion below on “Differences between Barometric and GPS altitude”. Note that in the worst scenario even barometric altitude can be “within 75ft of field elevation”.

- ix. Calculate AGL with Departure Field Elevation – this option only makes sense when data corresponds to local flights and terrain elevation is fairly constant (and equal to the departure field).

To import an FDR file, follow these simple steps:

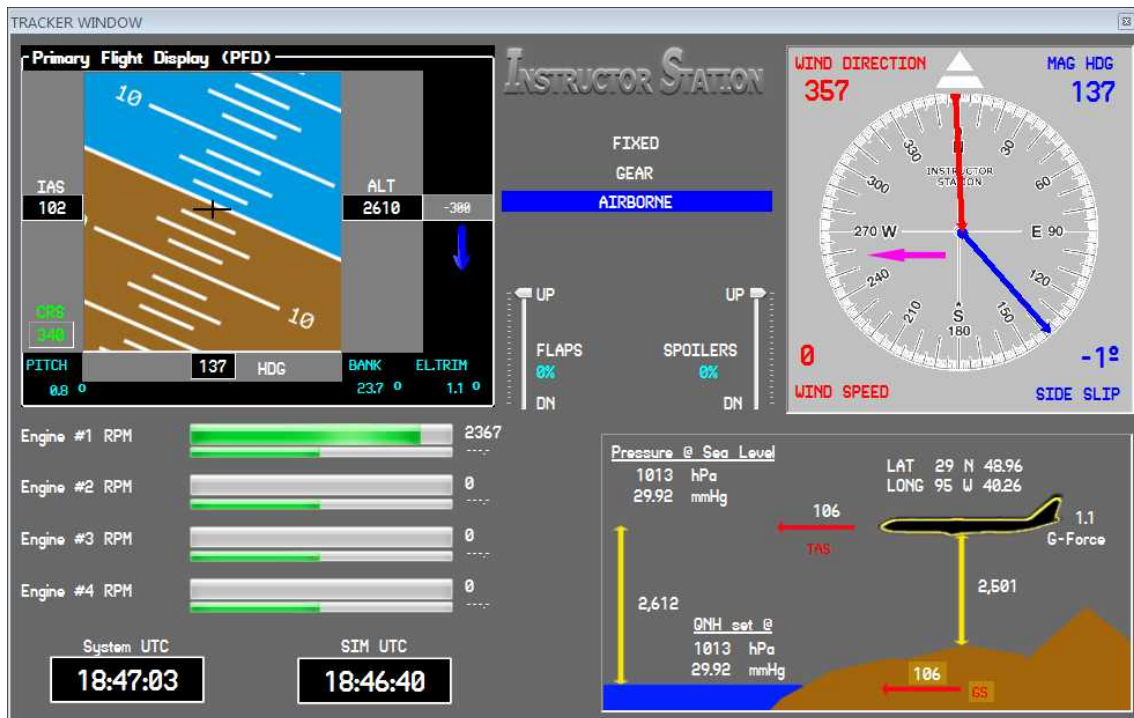
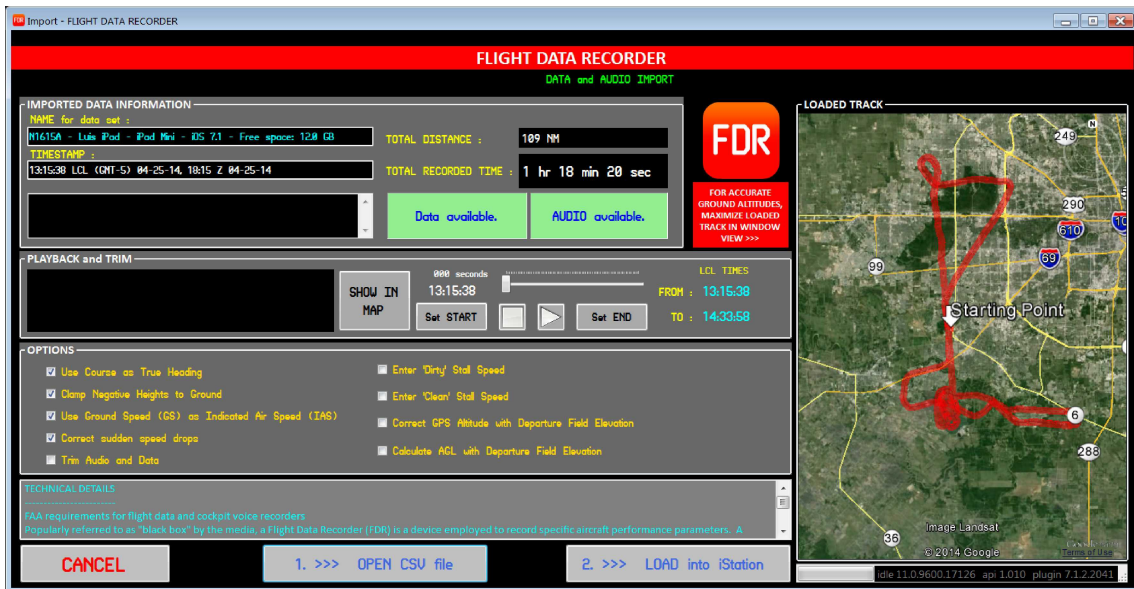
- a. Open the FDR window.



- b. Press the LOAD button, and select the CSV file that is to be imported. (IMPORTANT: User should wait until the Google-Earth™ plugin has loaded in the ‘LOADED TRACK’ window. Otherwise, an error will be shown. Note that

Google-Earth™ needs to be installed on the PC for the plugin to work properly).

- c. Check data, rename if desired, trim if desired and check appropriate options (default options are recommended).
- d. Press the IMPORT button and go to the RECORDER tab.

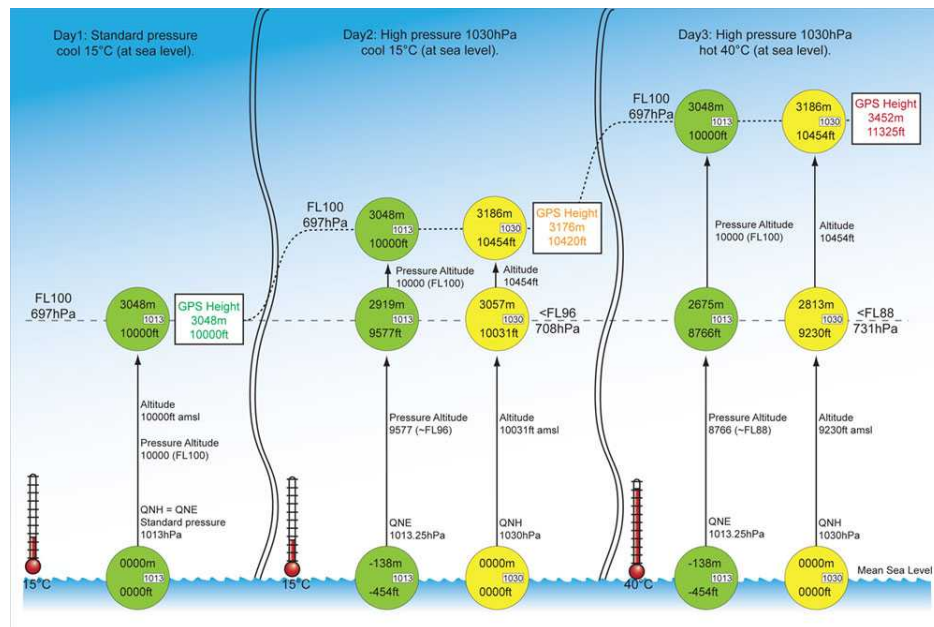


Why is the recorded altitude different from the one on my altimeter? –
Differences between Barometric and GPS altitude

Assuming that the GPS displays the geometric height above the geoid and that the signal reception is good then the GPS will display the height AMSL ±45 m. For any given geometric height, the indicated altitude of the altimeter (the one that defines airspace) will vary depending on the conditions of the day.

The problem with the altimeter’s indicated altitude is that it is calibrated assuming a standard day – that with increasing altitude the pressure drops at a standard rate. This assumption is not very accurate for two major reasons.

The first is if the temperature at sea level is anything other than 15°C then the rate of drop will not be standard. The second is the atmosphere usually has hot and cold layering making the rate of change of pressure non-uniform.



Day 1: is with QNH=standard pressure and the temperature is a standard 15°C. In this case FL100 is at an altitude of 10,000 ft AMSL because QNH = QNE = 1013.25 hPa. The GPS will measure a height of 10,000 ft above the geoid and everyone is happy. Day 2: has a high pressure system giving a QNH of 1030 hPa but it is still a cool 15°C at sea level. The green altimeter, set to QNE, will still indicate FL100 as 10,000 ft. At a pressure of 1030 hPa, the yellow altimeter will read 454 ft higher than the green altimeter at any altitude. Therefore the altitude indicated for FL100 will be 10,454 ft AMSL. The geometric height, as displayed by a GPS, will be 10,420 ft, at FL100. This geometric height is quite close to the 10,454 ft indicated by the altimeter set to QNH. For illustration purposes the geometric height of 10,000 ft, indicated by the yellow altimeter, equates to an altitude AMSL of 10,031 ft at a pressure of 708 hPa. Day 3: has a high pressure system giving a QNH of 1030 hPa but it is now a hot 40°C at sea level. The green and yellow altimeters will indicate the same as Day 2 because they are temperature compensated. However, 697 hPa (FL100) equates to a geometric (GPS) height of 11,325 ft. It has moved up. This geometric height is NOT close to the 10,454

ft indicated by the altimeter set to QNH. It is 871 ft (8%) higher. For illustration purposes the geometric height of 10,000 ft equates to 9,230 ft AMSL as indicated by the yellow altimeter at a pressure of 731 hPa.

The figure above illustrates how Flight Levels change their height depending on the day. FL100 is used as an example and is always at 697 hPa. From this we see that a change in QNH pressure alone does not cause a large difference between GPS height and indicated altimeter altitude.

But a change in the MSL temperature does create a difference between GPS height and indicated altimeter altitude. The error introduced by the temperature change is 0.347% per 1°C above 15°C and -0.347% per 1°C below 15°C. The reason for this is that the ICAO formula assumes that the density of the air at a particular altitude is standard but in reality this density changes with temperature.

In summary:

- Barometric altitude is the standard used by the aviation industry.
- GPS displays altitude as a distance, whereas altimeters display altitude based on pressure measurements. The two are fundamentally different and you would expect them to differ. They more or less indicate the same at 15°C, but the gap widens as the atmosphere becomes non-standard: they differ more as the temperature moves away from the standard 15°C.
- GPS gives height with respect to either the geoid or the ellipsoid and this can differ by up to 100 m. There can be ± 45 m of errors on top of this with good signal reception, more with bad reception.

The following table summarizes the variables logged in the .DAT file created by the Data Logger:

Position	Variable
1	Time – seconds
2	Indicated Air Speed (IAS) – knots
3	True Air Speed (TAS) – knots
4	Ground Speed – knots
5	Vertical Speed – feet per minute
6	MSL Altitude – feet
7	AGL Altitude – feet
8	Pitch – degrees
9	Bank – degrees
10	True Heading – degrees
11	Magnetic Heading – degrees
12	Side Slip – degrees
13	Engine #1 N1
14	Engine #2 N1
15	Elevator Trim Position
16	Latitude
17	Longitude
18	Distance from RWY Threshold – nm
19	G-force – g's
20	Engine #1 N2
21	Engine #2 N2
22	Full Flaps Stall Speed - knots
23	Clean Configuration Stall Speed – knots
24	Engine #1 RPM
25	Engine #2 RPM
26	Engine #1 Manifold Pressure - mmHg
27	Engine #2 Manifold Pressure - mmHg

INSTRUCTOR STATION (Non-commercial)

File FSUIPC Help **KEYBOARD** VOICE

CONNECT FSUIPC Status: Connected ! DISCONNECT WIDEFS Status: Waiting for connections... FDR ON FREEZE PAUSE EXIT

GENERAL NETWORK POSITION ENVIRONMENT FUEL/LOAD **RECORDER** FAILURES SIM CONTROL NAVCOM TRAFFIC

RECORDER -SIM FDR CONTROL NAME: 8 seconds
 Warnings Sound START STOP TIME STAMP: 13:34:58 LCL (GMT-5) 6-22-2014, 18:34 Z 6-22-2014 Logging data... No AUDIO available.

ANALYZE Select variables to plot:
 Indicated Airspeed (IAS) True Airspeed (TAS) Ground Speed (GS) Vertical Speed (V/S) Altitude (above sea level) Height (above ground) Pitch Angle Bank Angle True Heading Magnetic Heading Side Slip Angle Engine#1 N1 Engine#2 N1 Elevator Trim Latitude Longitude Distance to RWY C-Force Engine#1 N2 Engine#2 N2 Select ALL / None

FLT PHASES ACFT DATA

TIME PLOT DISTANCE PLOT APPROACH PLOT GLOBAL REPORT TRACKER WINDOW

real-time TIME PLOT DISTANCE PLOT APPROACH PLOT START export to Google-EARTH™ START Google-EARTH™

PLAYBACK Audio ON/OFF 000 seconds 13:34:58 SEND TO POS. Import FDR MOBILE

LOAD / SAVE DATA LOAD SAVE

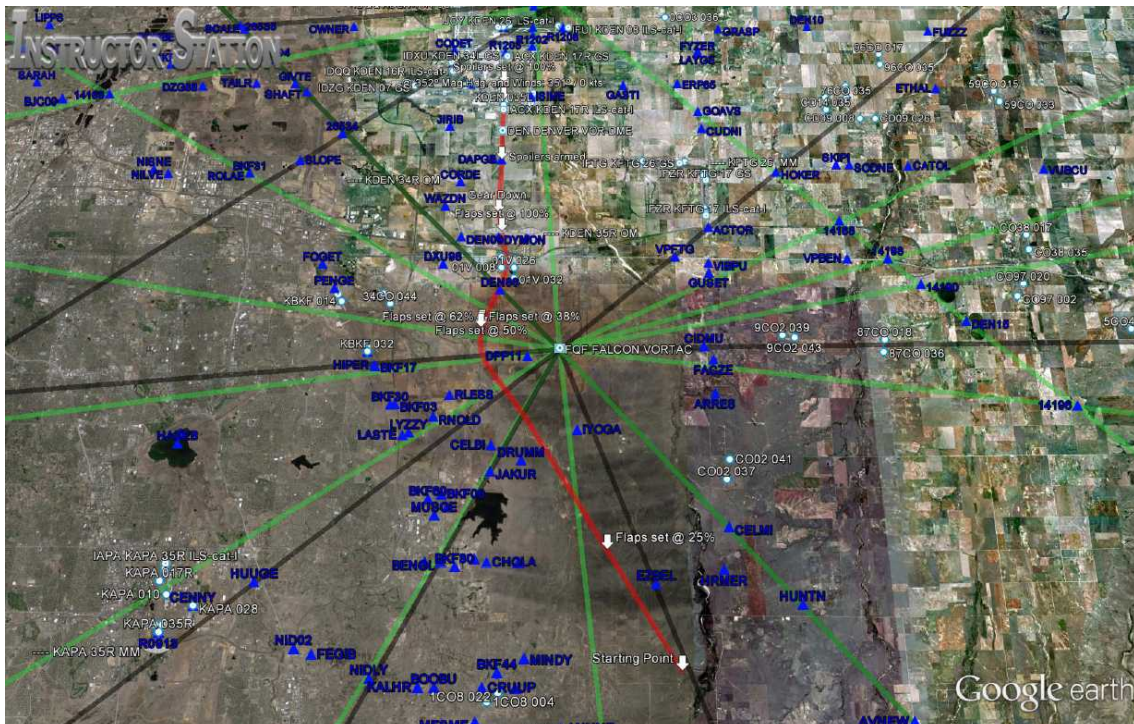
Export to KML - Options

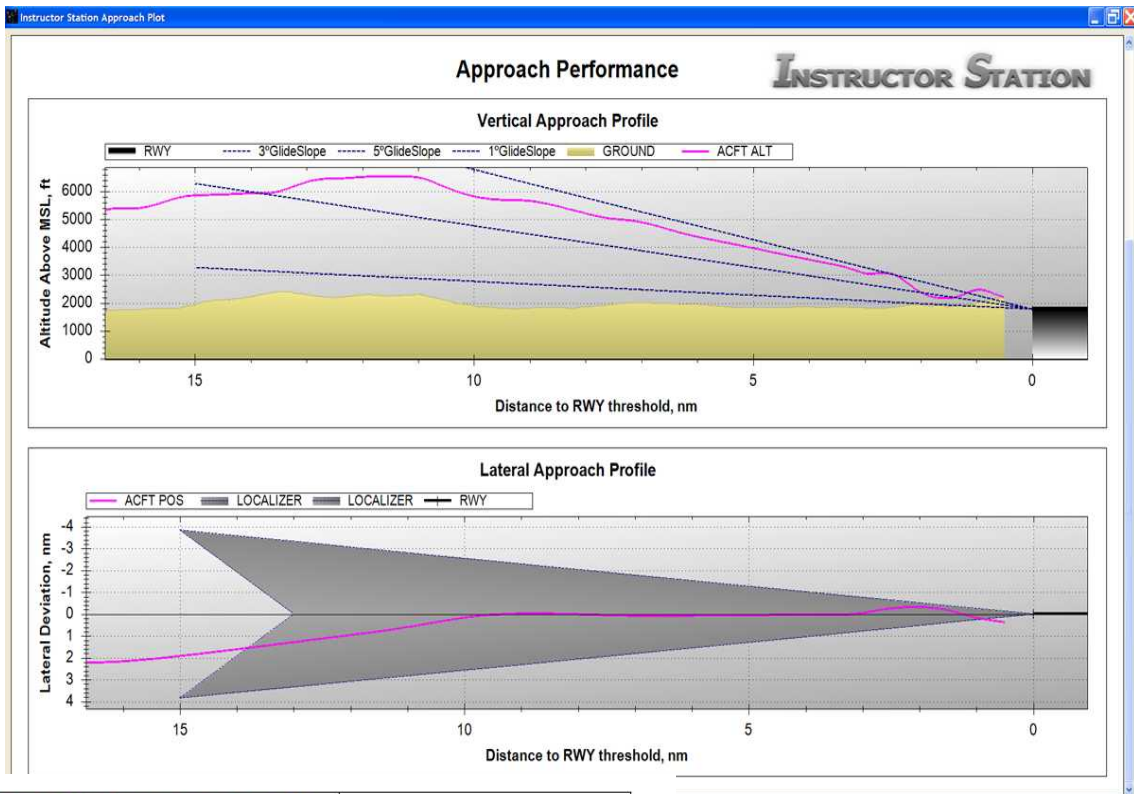
EXPORT

- Navigation Aids
- Fixed Points / Intersections
- Runways
- Airways

Only items within 45 nm of aircraft
 Export Warning/Event Messages

One-Time 45 nm Export OK Cancel





Approach Performance Report
Version 1.1.0.0

INSTRUCTOR STATION

Title:
Report generated: 24/08/2008 3:26:13 (01:26:11 UTC)

SOFTWARE DATA

FSUIPC Version: 3.820	PM Systems build: 0
WIDEFS Version: 6.750	MCDU/CDU build: 0
MSFS Version: FS2004	FCU/MCP build: 0
	Glass Cockpit build: 0
	PM Sounds build: 0

GENERAL DATA:

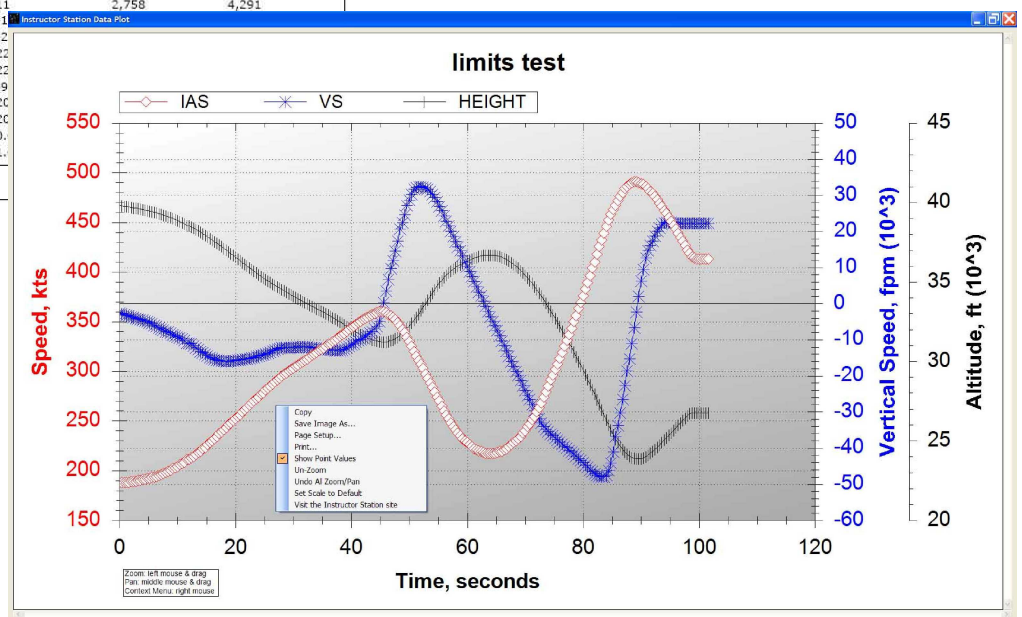
Aircraft Type: 0 hrs- 5 min- 41 seconds.
Runway Threshold:
Latitude: 47° N 15' 41.405"
Longitude: 11° E 21' 22.801"
Altitude: 1779 feet
Heading: 261 °

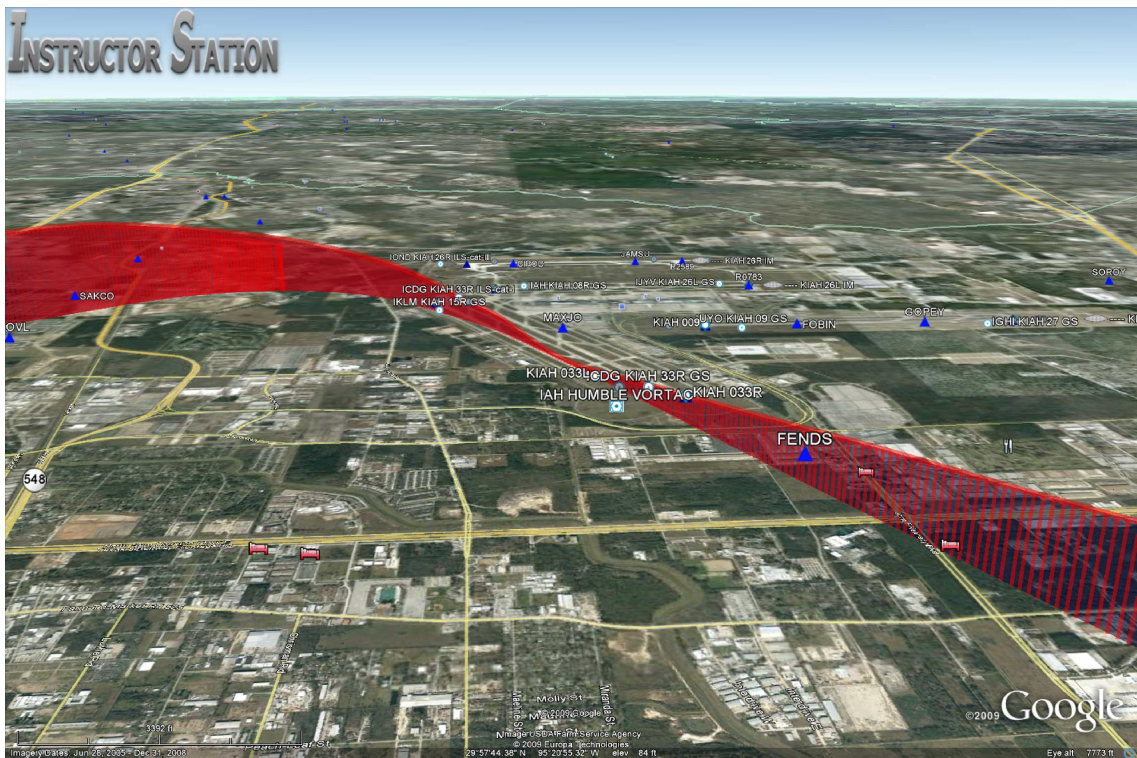
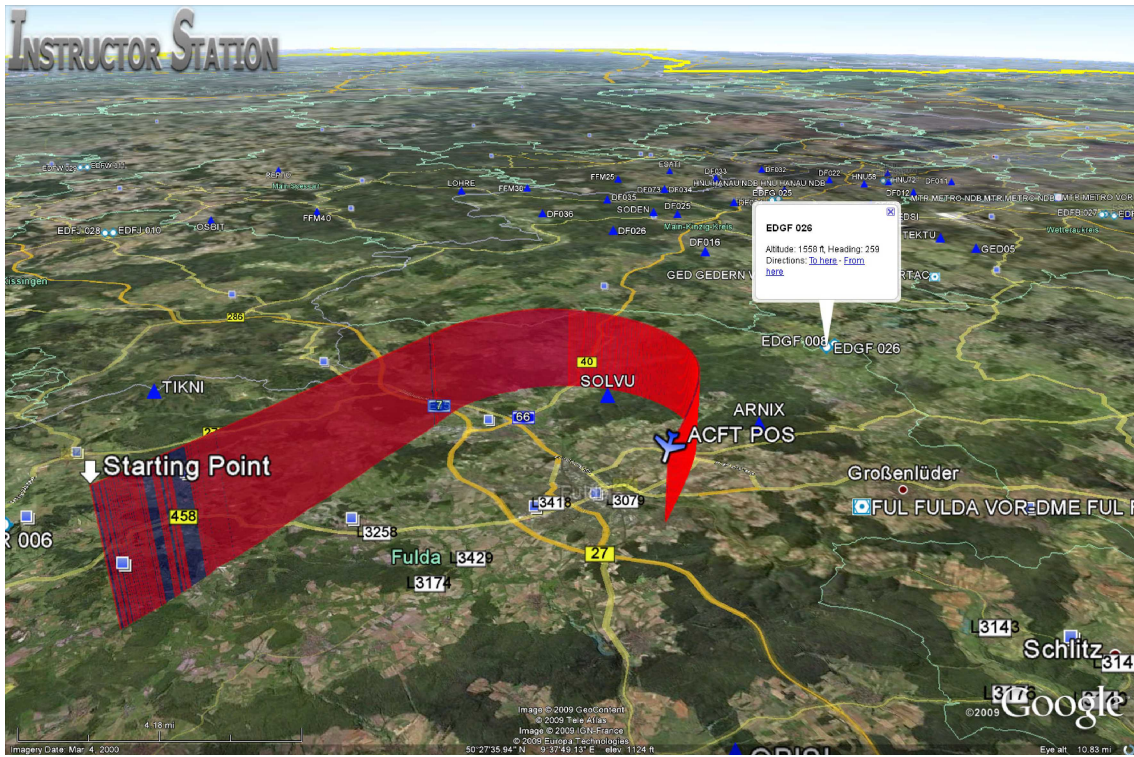
SUMMARY OF VARIABLES:

	MIN	AVG	MAX
Indicated Air Speed - IAS (kts):	152	181	219
True Air Speed - TAS (kts):	157	192	238
Ground Speed - GS (kts):	156	190	228
Vertical Speed - VS (fpm):	-3,951	-464	3,264
Altitude (ft):	2,169	4,719	6,545
Height - above gnd (ft):	11	2,758	4,291
Pitch Angle (-UP, +DN):	-1		
Bank Angle (-R, +L):	-2		
True Hdg (°):	22		
Magnetic Hdg (°):	22		
Side Slip Angle (°):	-9		
ENG1 N1 (%):	20		
ENG2 N1 (%):	20		
Elevator Trim:	0.		
Distance to RWY (nm):	1.		

REMARKS:

NOTES:





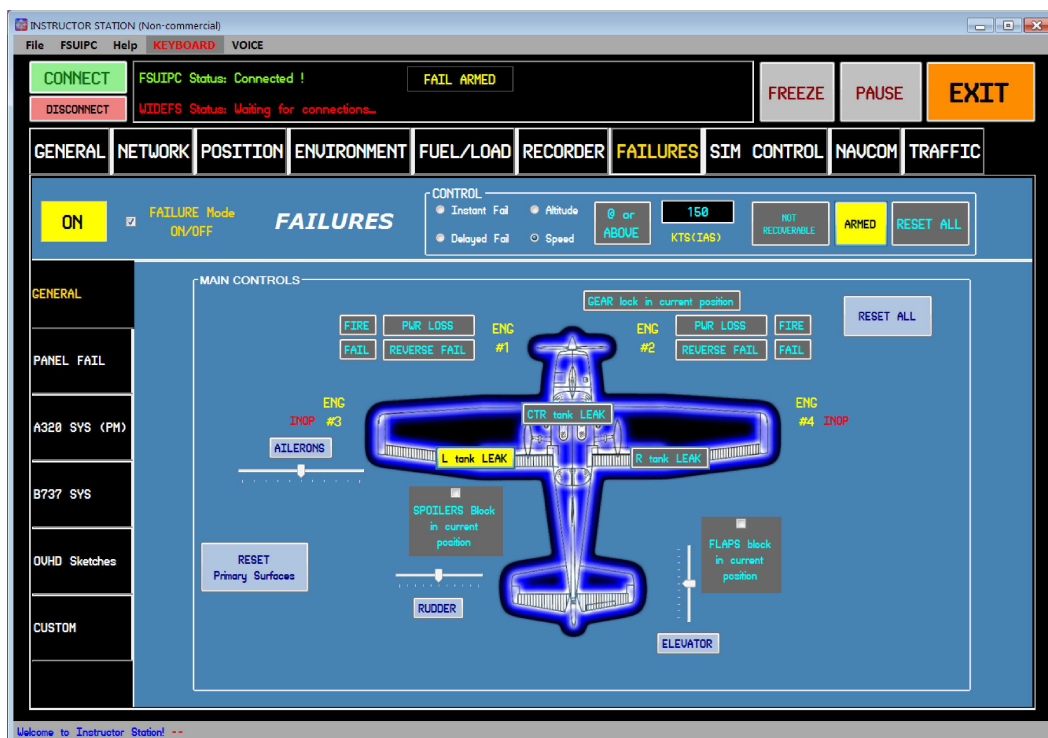
FAILURES

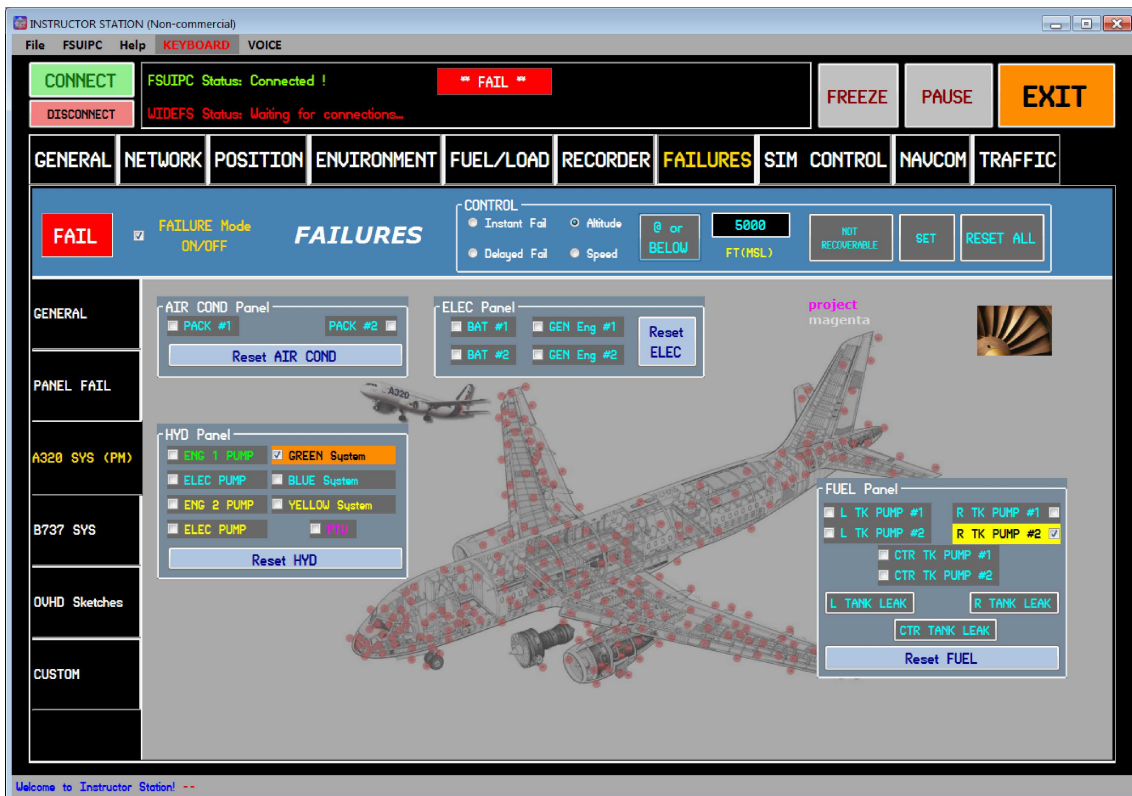
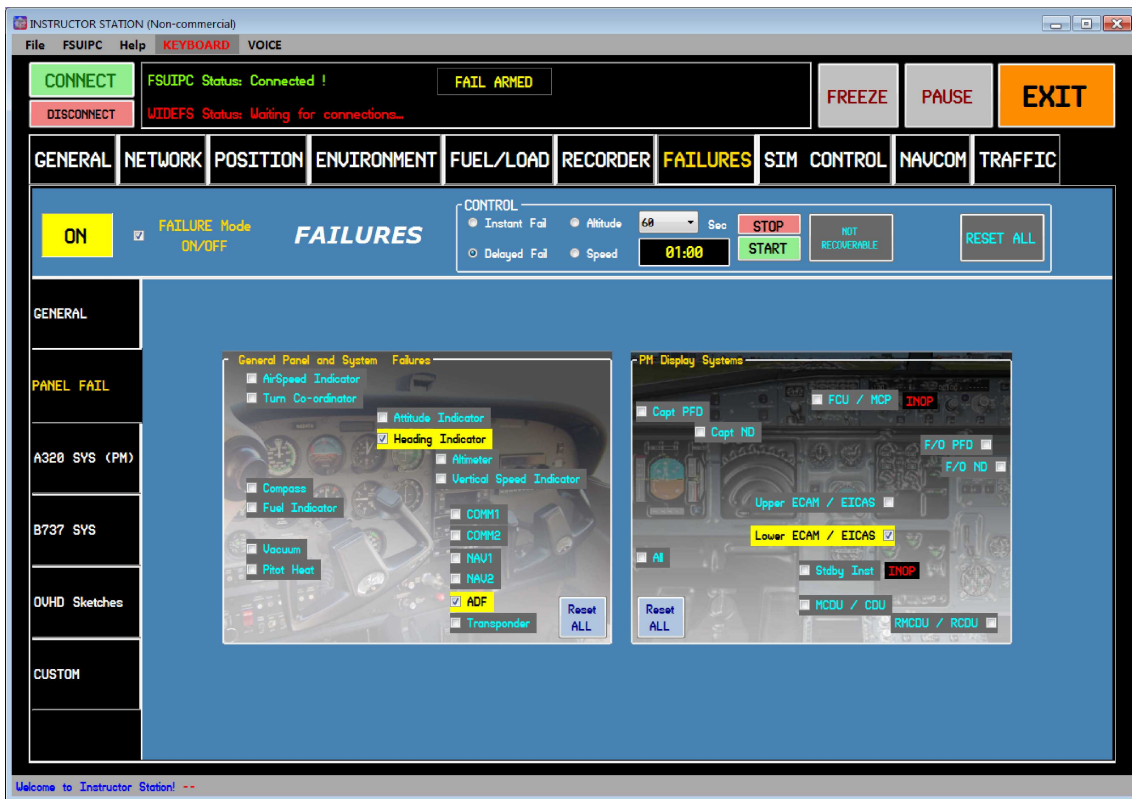
This tab enables performing the following tasks:

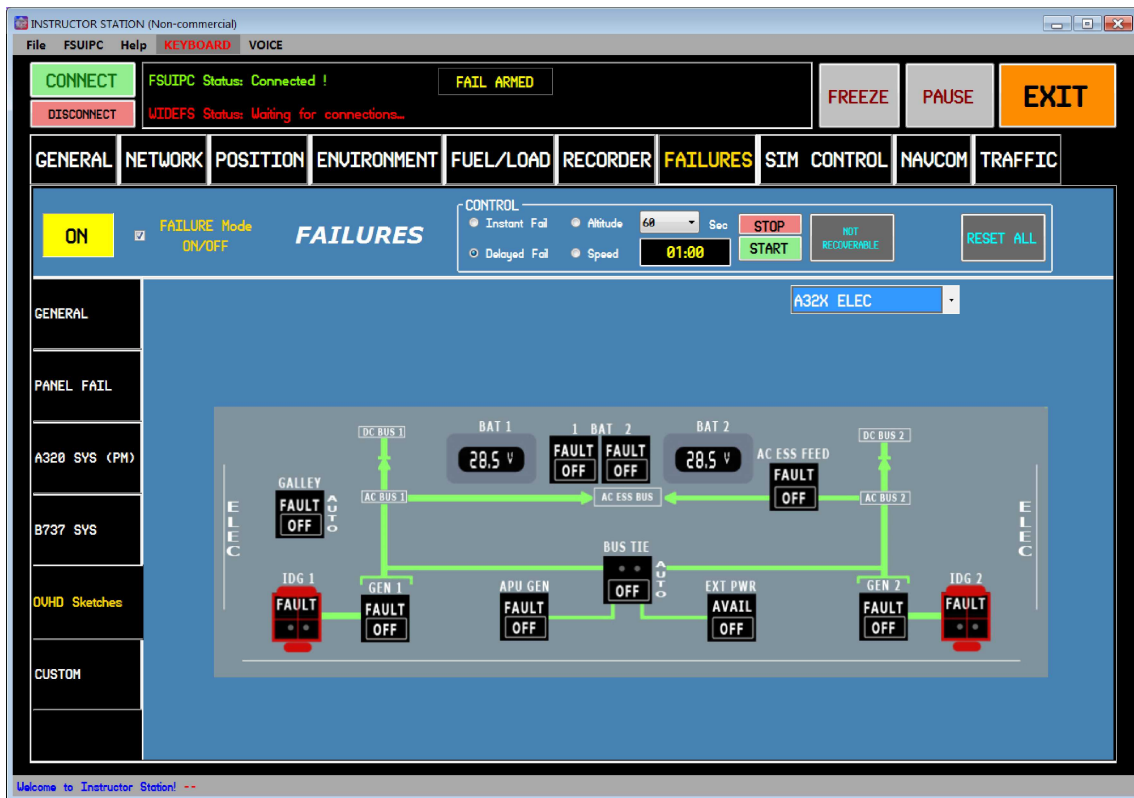
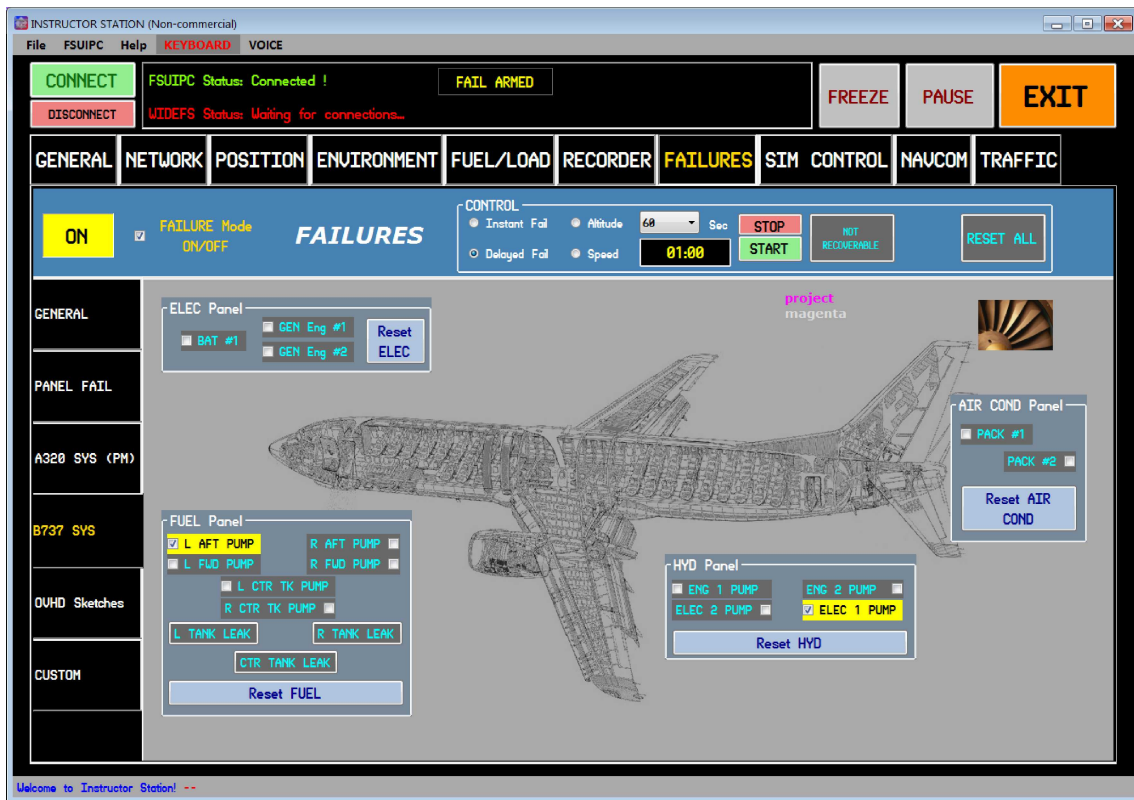
- Command failures of any of the following systems:
 - Panel Gauges (Altimeter, Radios, etc.)
 - Electronic Displays (Captain and/or F/O PFD, ND, Upper/Lower ECAM/EICAS, CDU/MCDUs).
 - Control surfaces (flaps, spoilers, ailerons, rudder, elevator)
 - Gear failure.
 - Individual or whole system failures (hydraulic, electric, etc.)
 - Engine failures.
 - Reverse thrust mechanism failures.
 - Fuel tank leaks (will deploy the selected tank in 5 minutes).

- These failures are triggered by setting the 'CONTROL' box:
 - Instant Fail: failures happen in the moment they are selected by the user.
 - Delayed Fail: failures are set to occur after a specified time delay.
 - Altitude & Speed: failures can be triggered when reaching certain speed or altitude values. The 'SET' button needs to be pressed, and it will change its look indicating 'ARMED'.
 - Failures can be set as "Recoverable", meaning specific actions taken by the pilots will recover the abnormal situation or "Un-recoverable", meaning that the abnormal condition will prevail no matter what the corrective action.

Failures are also available for the specific systems of Project Magenta's B737 and A320 series, as well as the AST A320 series (yet to come).



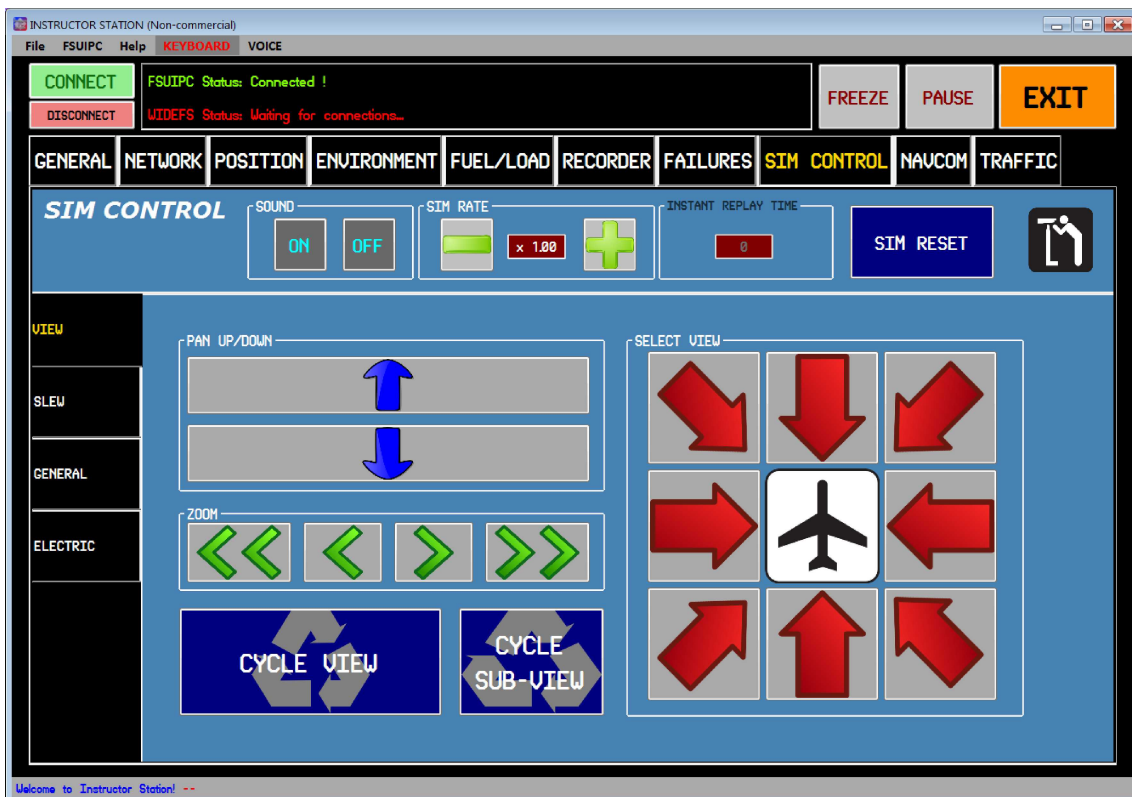




SIM CONTROL

This tab provides the following functions:

- Selection of different views in FS, controlling the amount of zoom, up/down pan, direction, etc.
- Change of the simulation rate ('SIM RATE').
- Slew controls: this provides control of FS's Slew Mode. When using the slew controls, click on the plane icons in the center of the arrows to stop movement.
- Display of remaining seconds of Instant Replay.
- Turn FS Sound On or Off
- Reset Simulation
- General controls: allows setting throttle, propeller, mixture and flaps.
- Lights: controls for Master Switch, Avionics Switch, and aircraft lights.



NAVCOM

To turn the Navigation Database on, click on the 'NAV Database ON' checkbox.

This tab provides the following functions through the following pages:

5

- NAV DATABASE:

- Selection of different navigational aids, like: VOR, NDB, LOC and Glideslope.
- Selection of the desired NAVAID in the 'Identifier' drop-down list.
- Below the 'Identifier' list, the Name, Elevation, Range, Distance, Frequency and Coordinates of the NAVAID are displayed.
- The 'Send to Pos Tab' button sends the navaid coordinates to the Position Tab, and there the aircraft can be placed on the navigational aid or at any distance from/to.

Example - place an aircraft heading 360 TO a VOR at 4nm:

- o Turn 'NAV database ON' in the NAVCOM tab.
- o Set 'NAVAID type' to VOR.
- o Type in the VOR identifier in the 'Identifier' list.
- o Once the desired NAVAID is verified to be displayed in the information boxes below, press the 'Send to POS tab' button to transfer the coordinates to the POSITION tab.
- o In the POSITION tab, set the distance TO the VOR: 4nm
- o Type in the desired heading TO the VOR: 360.

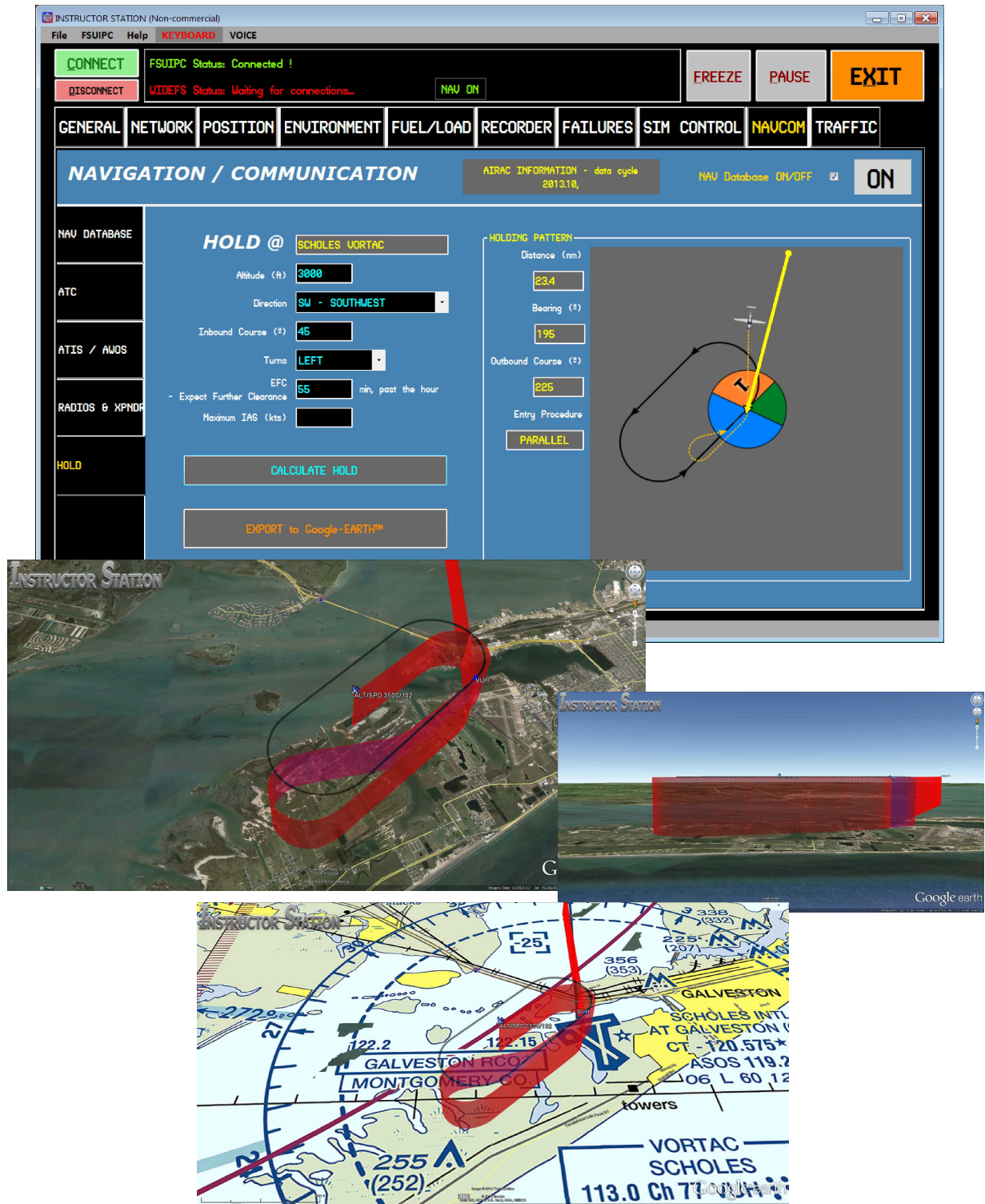
This will place the aircraft on the 180° radial TO the VOR with a heading of 360°, at 4nm.

- The 'Send to NAV' button sends the NAVAID frequency to the NAV1 or NAV2 radios.
- To select a different NAVAID, press the 'Reset fields' button.
- ATC: The "OPEN ATCWINDOW" button will open a window allowing to send instructions via text on the FS window, or via synthesized voice (Microsoft Speech engine), with a series of preset clearances and instructions, organized by phase of flight.
- ATIS / AWOS: This page allows the system to verbalize ('synthetic voice') or send to the FS window via text, a METAR, as selected on the ENVIRONMENT – REAL WXR page. A different station code can be set on the appropriate window (optional). Optionally, a frequency can be selected such that if COM1 or COM2 are tuned to it, the WXR will be sent or verbalized to the user.
- RADIOS & XPNDR: The five windows on this page relate to the NAV1, NAV2, COM1, COM2, ADF1 and Transponder settings of the aircraft. They can be used to set the active or standby frequencies to any desired value. There are also some preset transponder codes that can be selected (1200, 7700, etc.)

5

- **HOLD:** Allows defining a holding pattern based on the selected navaid on the “NAV DATABASE” page. After selecting altitude, direction or inbound course (one of the two need to be specified), left or right hand turns (note that if let blank, right hand turns are default), press the ‘CALCULATE HOLD’ button. This will display the holding pattern to the right, depicting the current aircraft direction (yellow line) and the recommended entry procedure. To the left of the graphic, the distance, bearing, outbound course and entry procedure are also displayed.

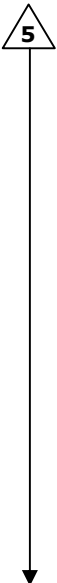
By clicking the ‘EXPORT to Google-EARTH™’ button, the holding pattern will be exported to Google Earth, and overlaid to the aircraft track.





TRAFFIC

To turn the Traffic Radar on, click on the 'Traffic Radar ON' checkbox.

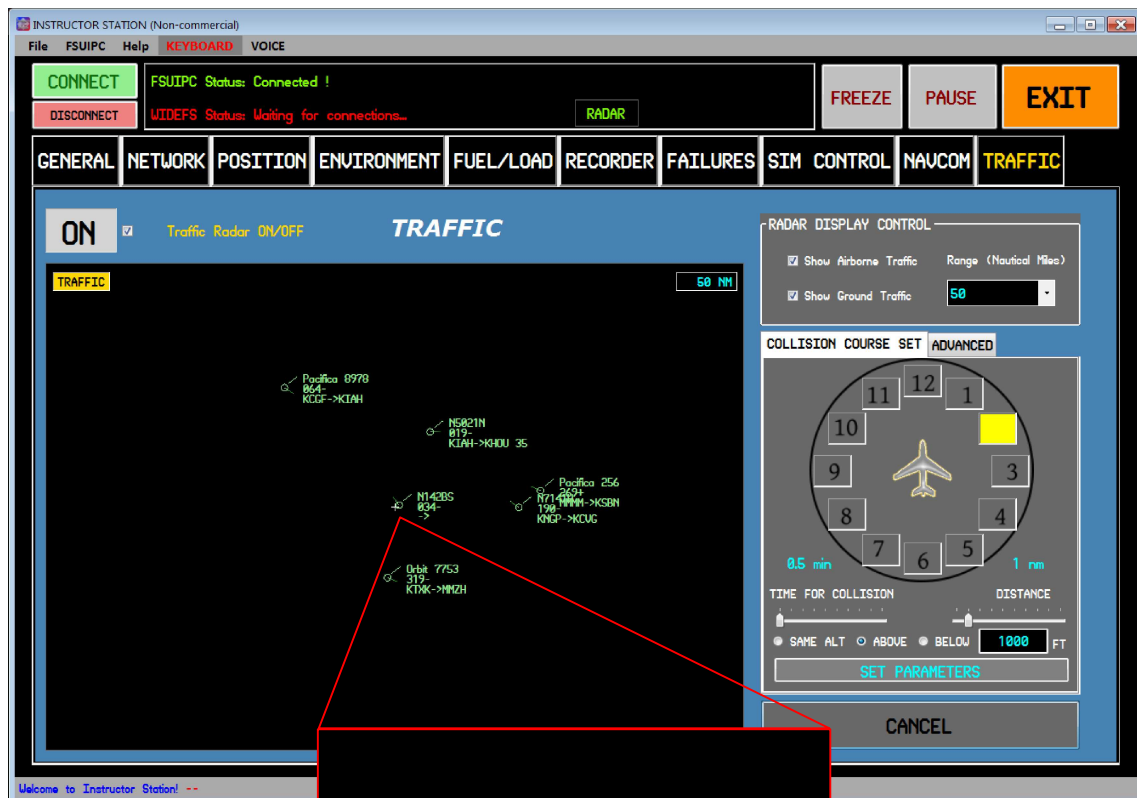


This tab allows monitoring of airborne and ground AI traffic created by Flight Simulator (or other 3rd party software). It also allows generating AI traffic (which will not be visible in FS, only on the radar screen and TCAS instruments). This feature allows practice of TCAS alert scenarios.

To easily set a traffic scenario, do the following on the 'COLLISION COURSE SET' tab:

1. Set desired incoming traffic direction (i.e. 2 o'clock traffic).
2. Set desired time for collision (default is ½ minute).
3. Set initial traffic distance (default is 1nm).
4. Select if traffic will be at same altitude (default), above or below and if so, how many feet above or below (default is 1000 ft).
5. Once this is done (note that steps 2-4 are optional), click 'SET PARAMETERS' (this will set the appropriate values in the 'Advanced' tab).
6. When ready click 'GENERATE TRAFFIC'.

Detailed parameters are shown and can be modified on the 'Advanced' tab if needed.



PORTABILITY

The Instructor Station can work natively on Tablet PCs (simply requires the correct Microsoft .NET Framework to be installed). Using a simple application called Air Display (<http://avatron.com/apps/air-display>), the PC monitor can be extended to the corresponding Apple or Android device. Not only that, when displayed on the mobile device the Instructor Station can be controlled with the device's normal touch screen capabilities.



TROUBLESHOOTING

In case you are experiencing problems with the Instructor Station, please read through the following section before contacting us for Support.

You can also visit the Support section of our Forum for additional help:

<http://www.cockpitbuilders.com/community/index.php?board=57.0>

Symptom	Probable Cause	Solution
The program gives an execution error upon startup.	Microsoft .NET Framework v4.0 not installed.	Please visit the following page and download and install Microsoft .NET Framework v4.0: http://www.microsoft.com/en-us/download/details.aspx?id=17851
	Microsoft Windows XP not updated	Please install Microsoft Windows XP Service Pack 3
	Microsoft Speech SDK not installed.	Please install Microsoft Speech SDK 5.1: http://www.microsoft.com/en-us/download/details.aspx?id=10121
Instructor Station does not connect to the FS Server (from remote computer)	Multiple	<p>Check the following:</p> <ol style="list-style-type: none"> 1. Disconnect the "dynamic WXR" setting in FS. 2. Check if your firewall is blocking the way out. 3. Please also check your wideclient and wideserver are properly running. 4. Try disconnecting and reconnecting to FSUIPC from the Instructor Station program menus. 5. Check you have Microsoft .NET Framework 4.0 installed. 6. Try to run the program on your FS server computer, to discard any other problems. 7. Check you have the latest version of the Instructor Station. Check at: http://luisgordo.googlepages.com/instructorstation

Symptom	Probable Cause	Solution
Flight Simulator not responding to weather settings	Dynamic Weather enabled in Flight Simulator "Global WXR" instead of "ICAO WXR Station" selected in the Environment tab	Please turn the "Dynamic Weather" option off within Flight Simulator (for FS2004: World – Weather – Dynamic weather, Rate of change: None) When using FSX or later, make sure "ICAO WXR Station" is selected in the Environment tab.
Aircraft Position selected from Runway (Runways button) is not correct	"r4.csv" and "g5.csv" files not customized to current Flight Simulator scenery and installed airports	Please generate the "r4.csv" and "g5.csv" files suited to your Flight Simulator installation. Please find detailed instructions in the "Position" tab description section.
Flight Simulator stopped responding to Instructor Station commands	User changed from one aircraft to another	If you change aircraft in Flight Simulator, please disconnect and reconnect the link to FSUIPC from the Instructor Station.
The KML file created from the Logged Data prompts an error in Google Earth	Incorrect 'decimal symbol' and 'digit grouping symbol'. Navigation data files not available.	Please refer to 'Description of Tabs' section on instructions to set these parameters correctly. Always remember to save the KML file to the Instructor Station folder. You will be able to move it elsewhere later on . Make sure that these files are located in the Instructor Station folder: "earth_nav.dat", "earth_fix.dat" and "earth_awy.dat". They should have been installed by the Instructor Station setup application. If they happen to be missing or corrupt, you can visit the following web page and download the latest available files (X-Plane 9.00 & later): http://data.x-plane.com/get_data.html

Symptom	Probable Cause	Solution
The program states it cannot access KEY.cfg – permission denied.	Windows 7 is blocking access to files within the “Program Files” folder.	Install iStation in any folder outside the “Program Files” folder.
Instructor Station weather not updated across the WideView clients	The problem lies with Wideview and has now been fixed by updating with a fix.	At the time of writing this manual, the fix is not on their website, so here is the link: www.wideview.it/tqbeta/wideview.zip Update all Wideview’s with the new wideview.dll (computer-program files-microsoft games-MSFX-wideview). Start the server FSX; select add-ons-wideview- weather and insert “ GLOB” in the NEW wideview weather window (top righthand corner) on the server PC and exit FSX. (You can do this for all wideview PC’s but it is probably only necessary on the Server). Restart FSX and go to weather Themes and set the top theme- “clear weather”; save the situation, default checked and exit FSX. Restart server and start clients and the iStation PC and it should all work OK.

SUPPORT

Please consider that support will be limited to FS2004 and FSX with or without Project Magenta set-ups, as stated in the Requirements section, under Windows XP and Windows 7 only.

For questions or support, please contact me at luisgordo@gmail.com.

Many of your questions may already have been answered. Please check the Support section at our forum: <http://www.cockpitbuilders.com/community/index.php?board=57.0>

For information and updates, please visit:

<http://luisgordo.googlepages.com/instructorstation>

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Please refer to the End-User License Agreement (EULA) that accompanies the software package for full details. Note that by using this software, you agree to be bound by the terms of this EULA.

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FUTURE DEVELOPMENT

The following lines of development will be followed as time permits and demand requires:

- 
- Implement Moon Phase calculator.
 - Extension of functions to PMDG users.
 - Extension of functions to PM A330/A340.

Some new features being considered are:

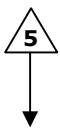
- Add warnings for excessive crosswind or tail/headwind for takeoffs and landings.
- Option to print the Fuel Planner and Weight and Balance reports.
- Implement Airbus ECAM actions (associated with pmSystems logic file code).
- Support for multiple WideServer sessions on different PCs connected to a single WideClient session (Instructor Station PC). Useful for training rooms with multiple PC Flight Stations.

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