

# DSix User Interface

# DSix User Interface

## Description

This section presents the DSix Graphical User Interface (GUI) and covers all of the primary interface elements that make up the GUI. You will be introduced to the main application window and to the menus and toolbars used to interact with DSix and access its functionality.








## What you will learn

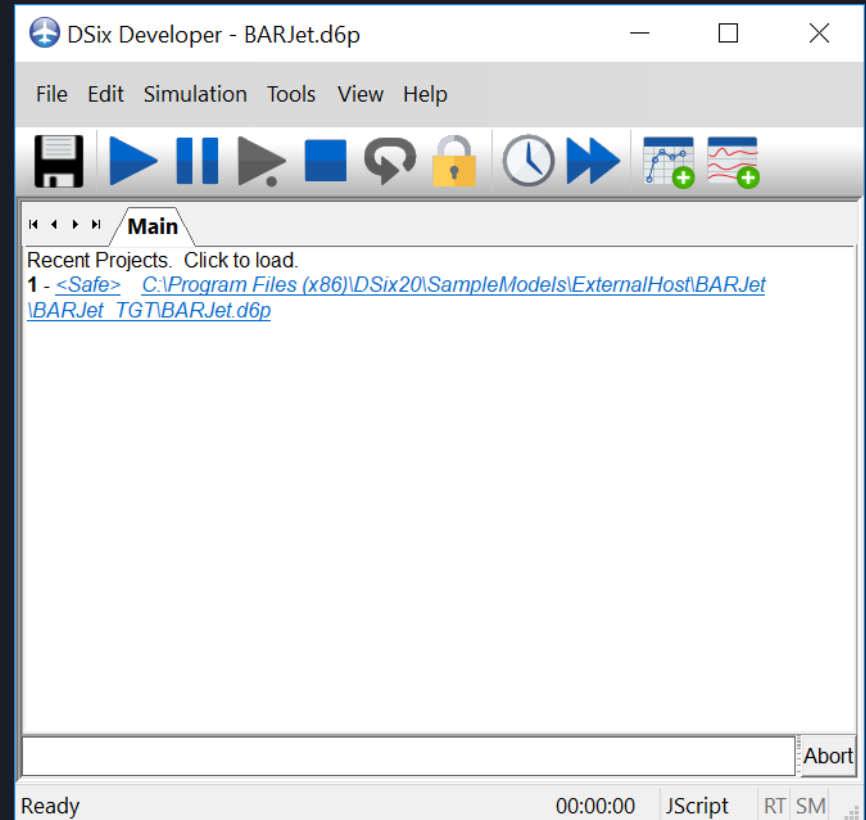
*Upon completion of this section, you will be able to:*

- Identify the functions available through the DSix **drop-down menus**
- Identify the functions available through the DSix **toolbar** elements
- Understand the primary elements that make up the DSix **application window**
- Have a general understanding of how to access the core functions of DSix

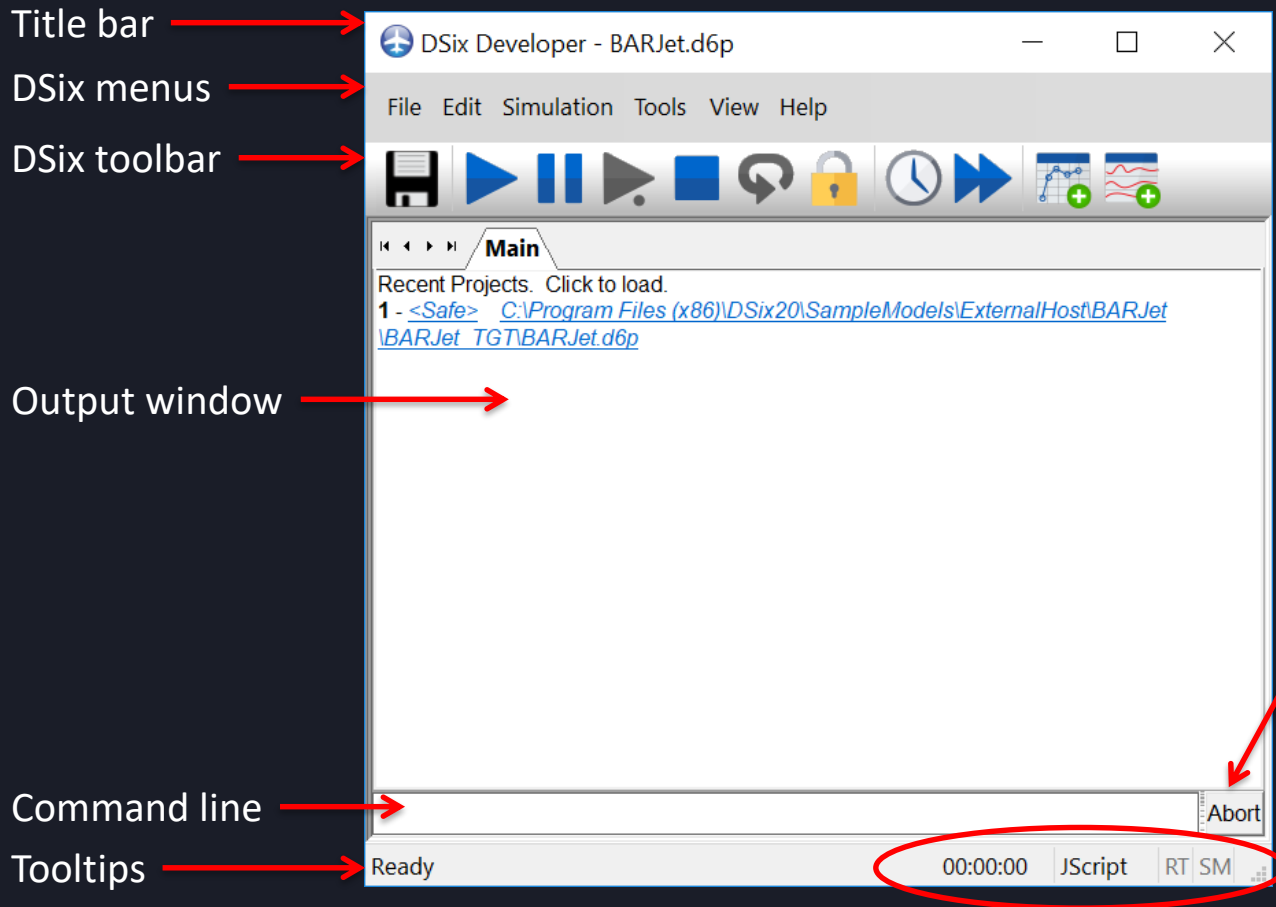
# Main Application Window

## Full access to:

-  DSix menus
-  Simulation controls
-  Module interfaces
-  Currently loaded script objects
-  Command Line Interface
-  Recent projects
-  Simulation status



# Main Application Window



Abort script button

Status information:

- Elapsed time
- Script engine
- Real-time alert
- Safe Mode alert

# DSix Menus

File Edit Simulation Tools View Help

Provides access to:

- ✈ File-related activities (open, load, save, exit)
- ✈ Editing functions (initial conditions, vars, etc.)
- ✈ Simulation parameters and controls
- ✈ DSix Tools
- ✈ Visualization features (strip charts, plots, IG, etc.)
- ✈ Help

# DSix Menus












File Edit Simulation Tools View Help

## NOTE:

- ✈ Not all menu items will appear, or be active for a particular DSix session.
- ✈ Factors that may determine a given menu item's availability include:
  - ✈ modules currently loaded
  - ✈ license permissions
  - ✈ current simulation state.

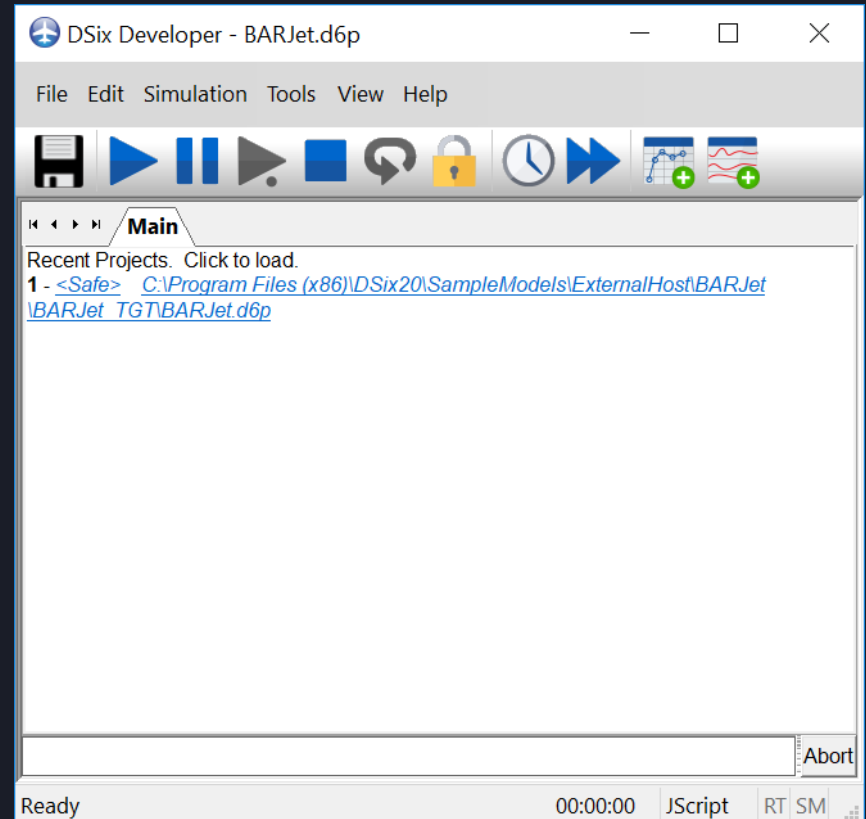
# DSix Toolbar



Save		Save Current Project
Run		Begin a run, or continue a paused run
Pause		Pause a run, or set simulation to begin in a paused state
Step		Perform a single time step on a paused run
Stop		Stop a run
Replay		Replay a run
Safe Mode		Toggle Safe Mode on/off
Real Time		Commands real time execution
Increase Speed		Increases simulation speed
Plots		Open a DSix Plots window
Strip Chart		Open a DSix StripChart

# Most Recent Project Links

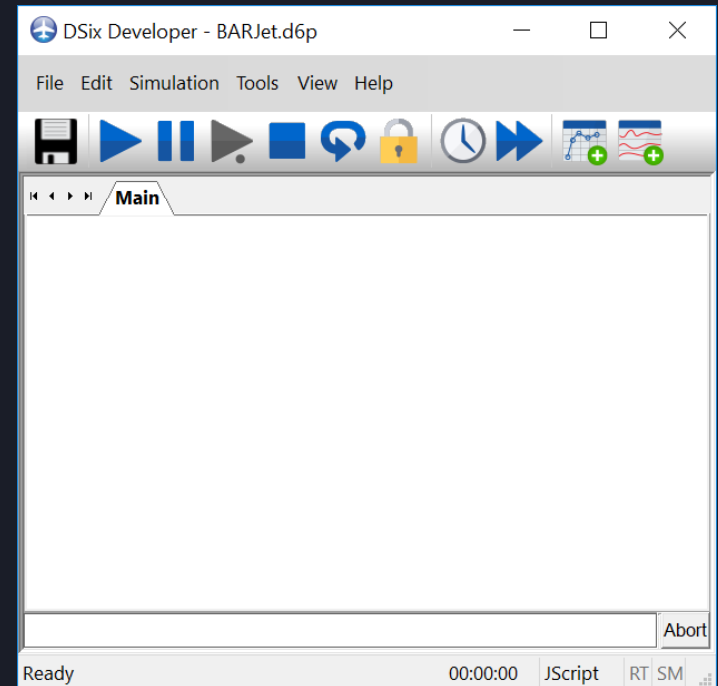
- Provides **one-touch loading** of projects that have been recently loaded into the workspace.
- Populated at DSix program **startup**, and is not refreshed during a DSix session.
- Listed in order**, beginning with the most recently loaded project.
- A link that begins with '**<Safe>**' indicates that the project was last loaded in Safe Mode.
- The display of these links is **optional**, and may be set via DSix Preferences.



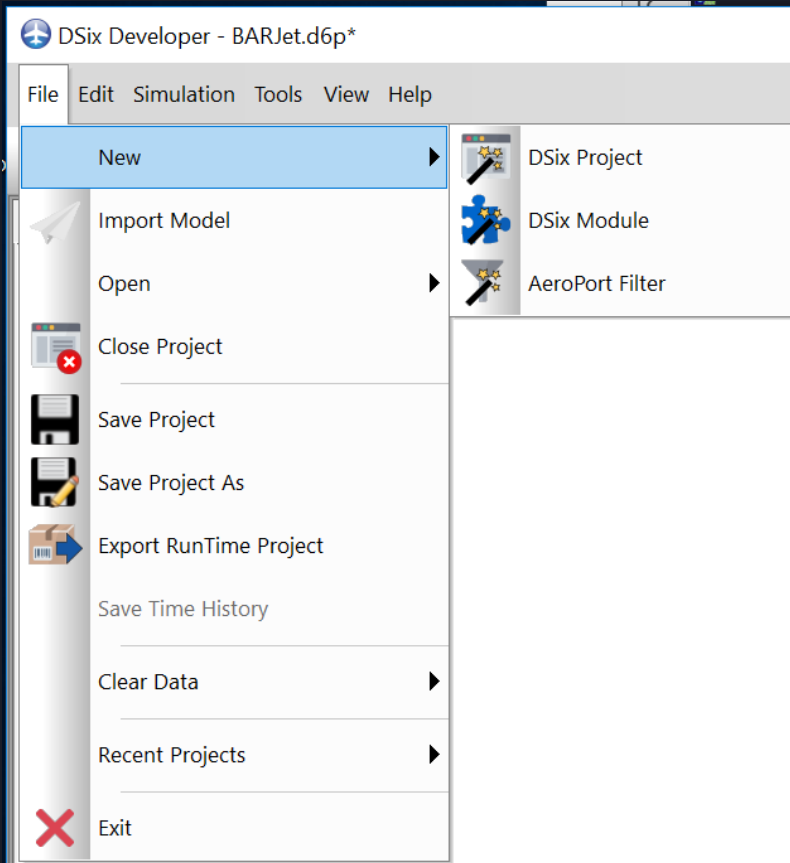


# Output Window

- Warning, error, and simulation state messages are posted to this window by plug-in modules, the script engine, and the DSix application.
- Output window control, creation of additional windows, and custom messaging is available to DSix users through the “Print...” properties and methods of **DSix scripting**
- Further control is available to DSix Developers via the **DSix API**.



# The FILE menu



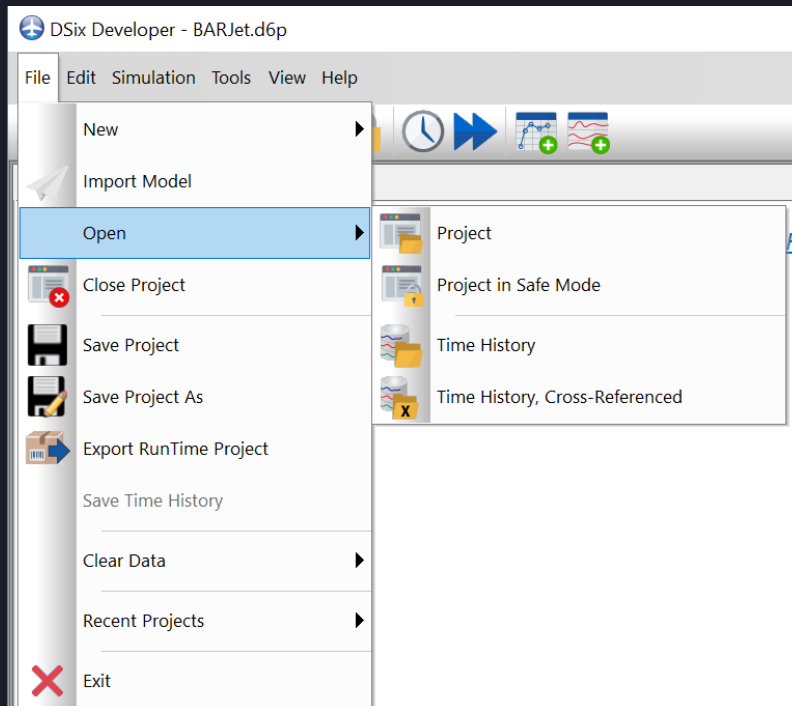
**DSix Project:** Launches a wizard that creates an empty DSix project.

**DSix Module:** Launches a wizard that creates an empty DSix module.

**AeroPort Filter:** Launches a wizard that creates an empty AeroPort filter.

**NOTE:** Wizards only available in DSix Developer Edition

# The FILE menu



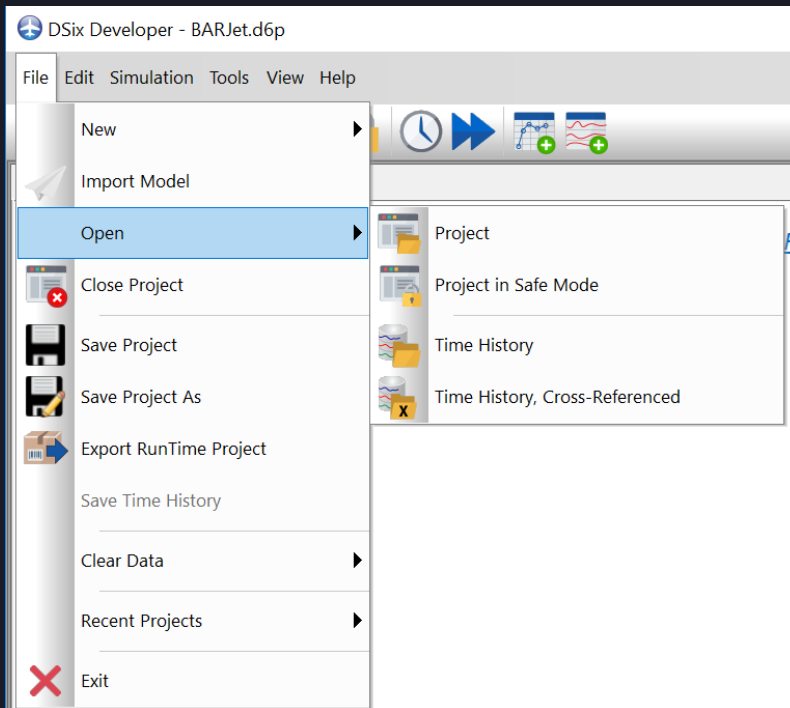
**Open -> Project:** Allows the use to navigate to a DSix project and open it.

**Open -> Project in Safe Mode:** Allows the use to navigate to a DSix project and open it in Safe Mode.

**Open -> Time History:** Load a Time-History file into the DSix database.

**Open -> Time History, Cross-Referenced:** Load a Time-History file into DSix, and open the Cross-Reference Tool, allowing renaming of channels.

# The FILE menu



**Close Project:** This will unload the project dll, clear the variables, and dispatch a “Project Close” message to all DSix modules. After selecting this item, DSix will be in the same state as when the application is first launched.

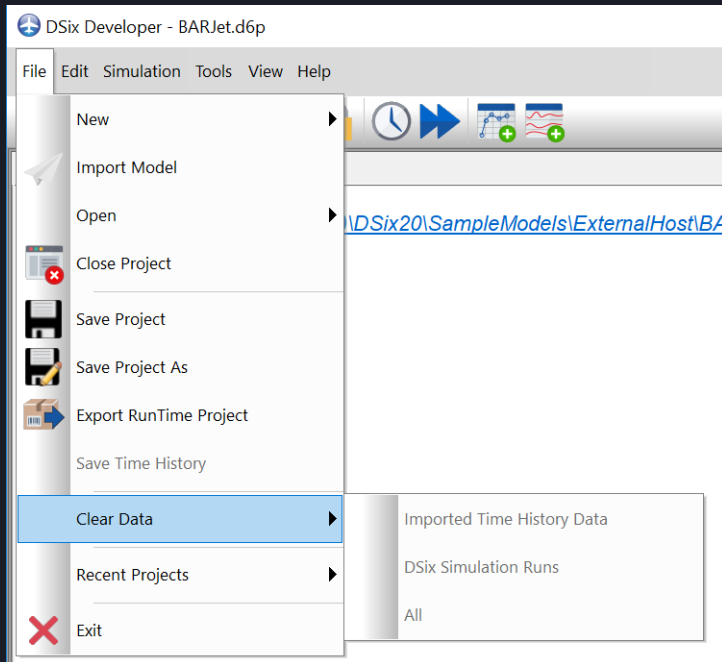
**Save Project:** Saves the current DSix Project.

**Save Project As:** Saves a copy of the current DSix Project.

**Export RunTime Project:** Saves a copy of the current DSix Project in a special RunTime format that can be opened by a DSix RunTime license.

**Save Time History:** Save a DSix Time-History database to a file. DSix Time-Histories may be saved to WPText (\*.txt) or Matlab Script (\*.m) files only. This option will be disabled when there are no Time-Histories in current program memory.

# The FILE menu

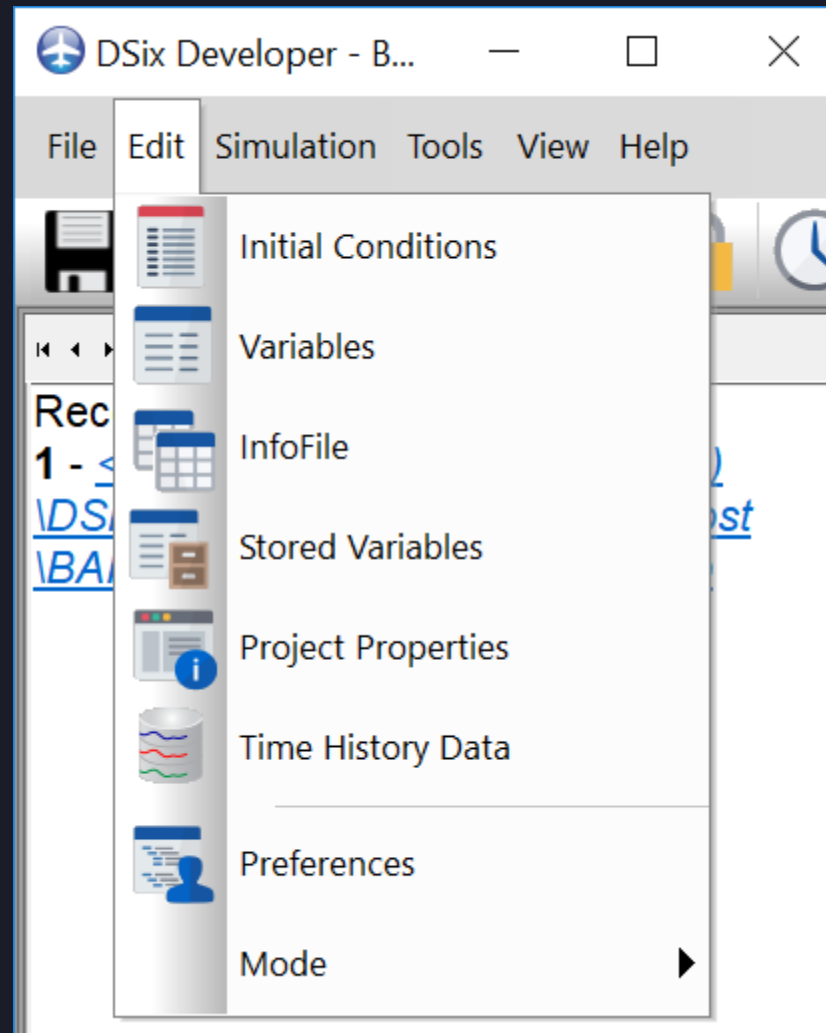


**Clear Imported Time History Data:** Clear Time-History databases that have been loaded via ..Open..Data File or ..Open.. Data File, Cross-Referenced.

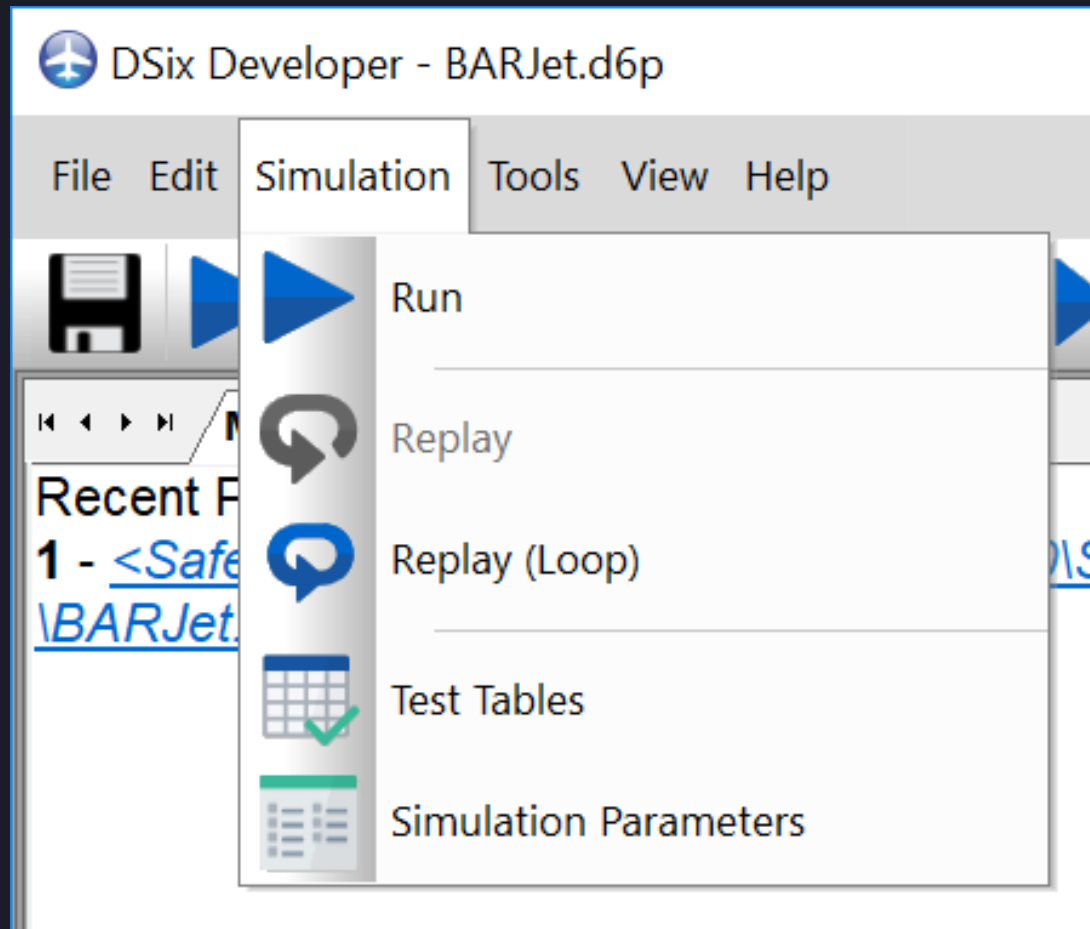
**Clear Sim Runs:** Clear Time-History databases that have been generated from simulation runs.

**Clear All:** Clear all Time-History databases currently in memory

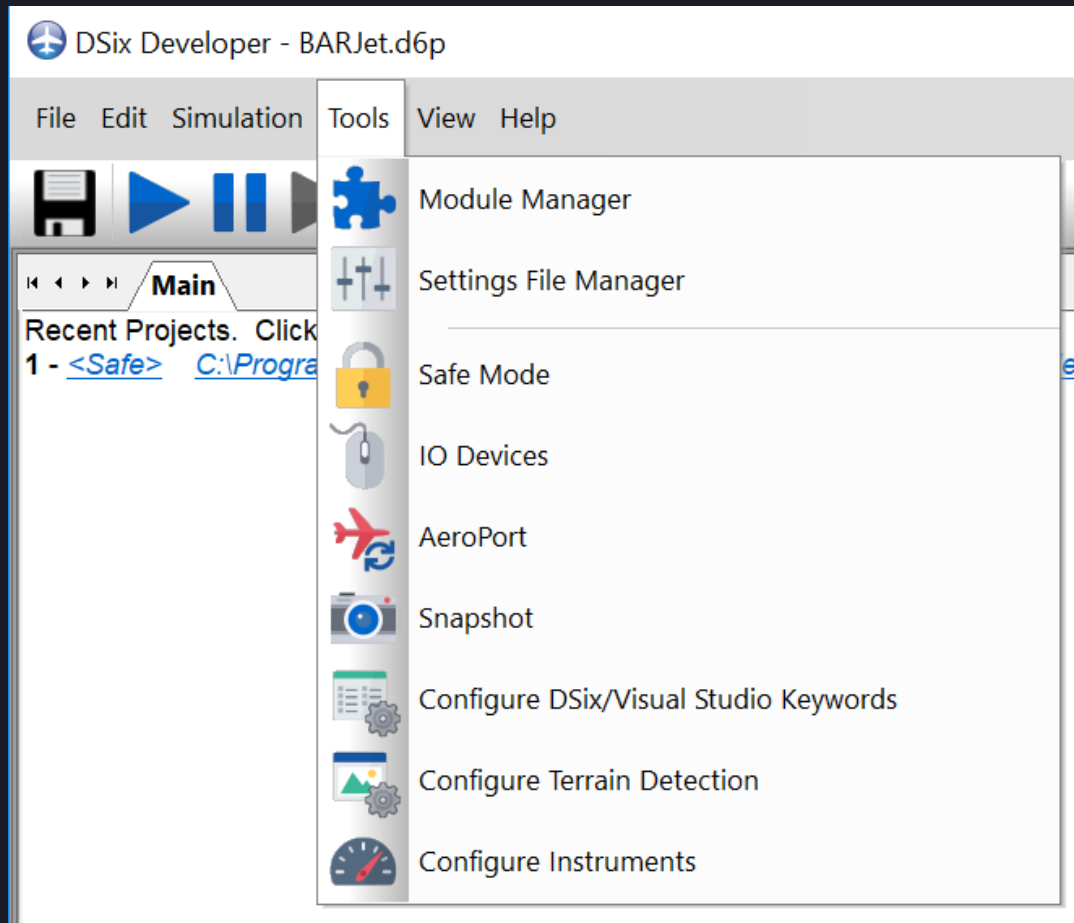
# The EDIT menu



# The SIMULATION menu



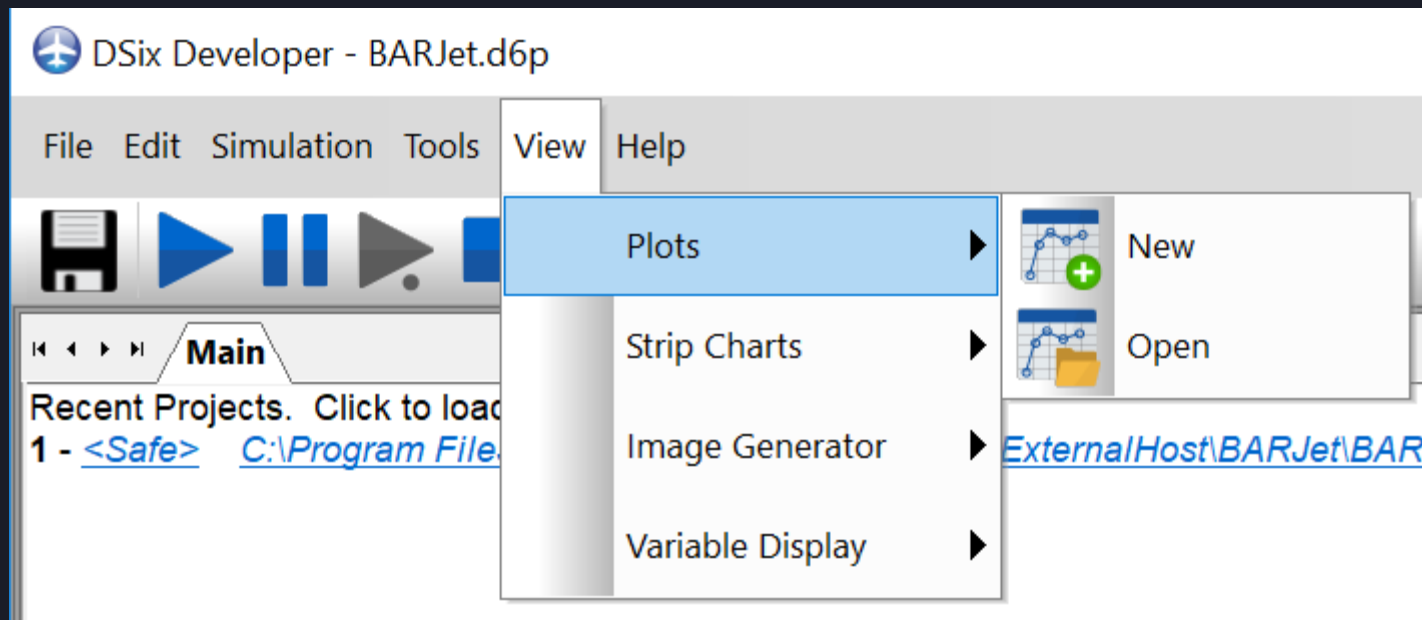
# The TOOLS menu





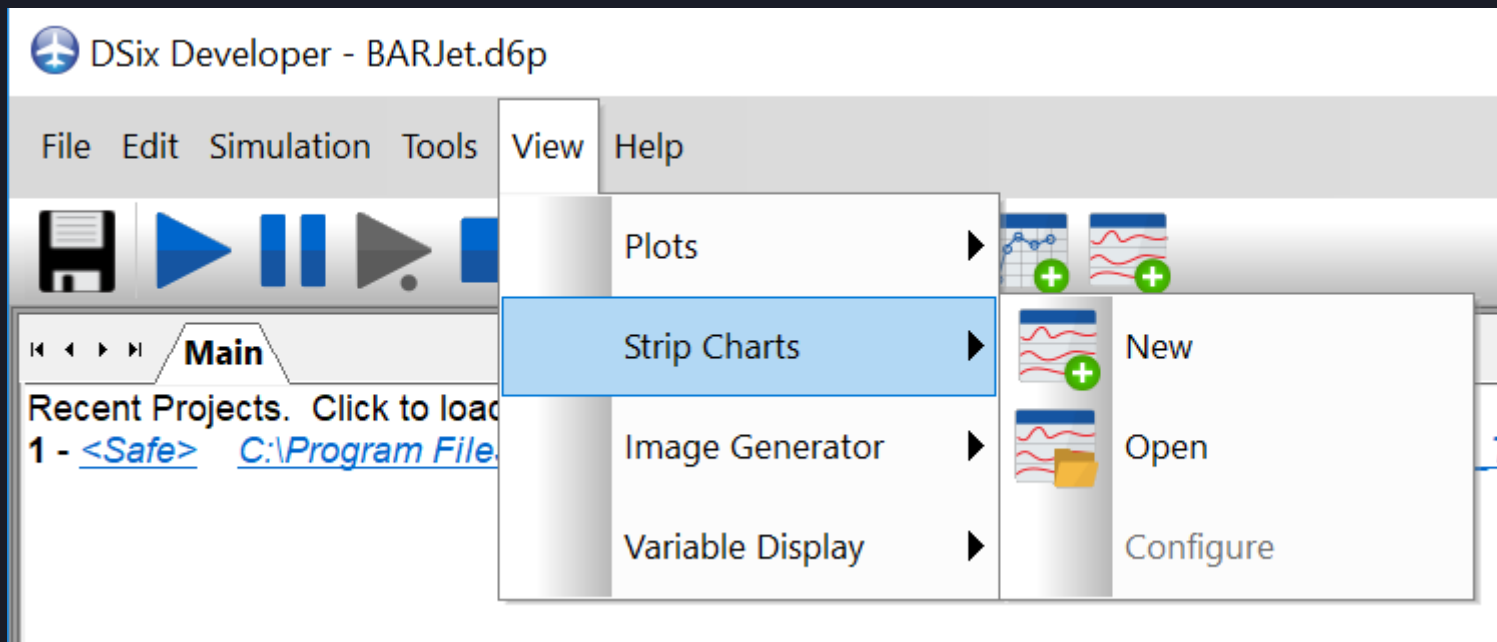
# The VIEW menu

## Plots Sub-Menu



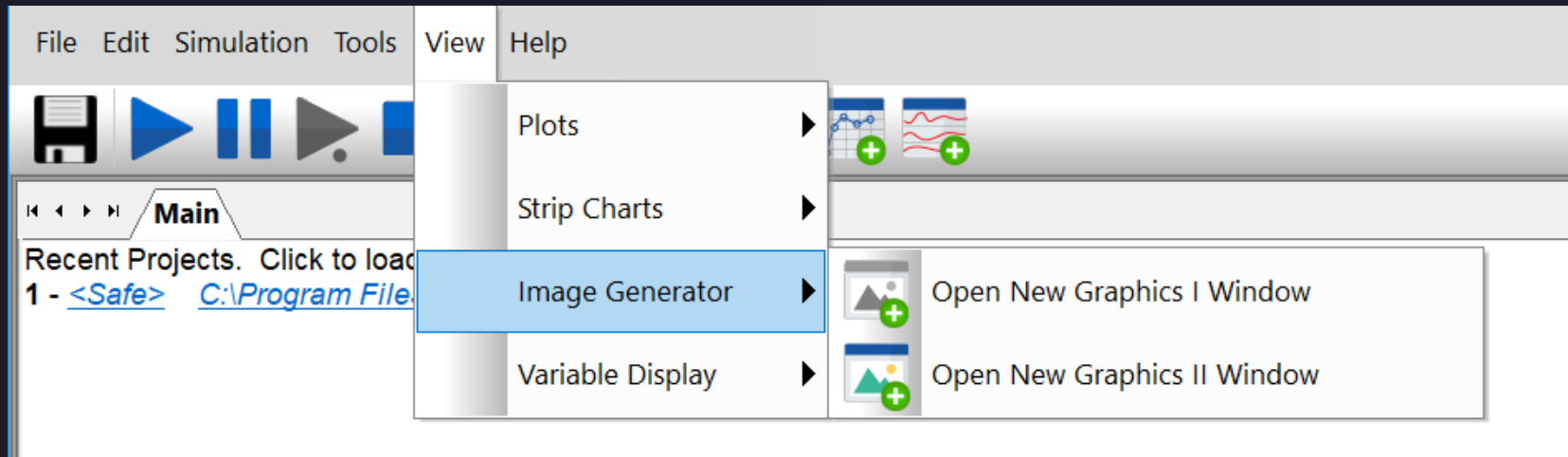
# The VIEW menu

## Strip Charts Sub-Menu



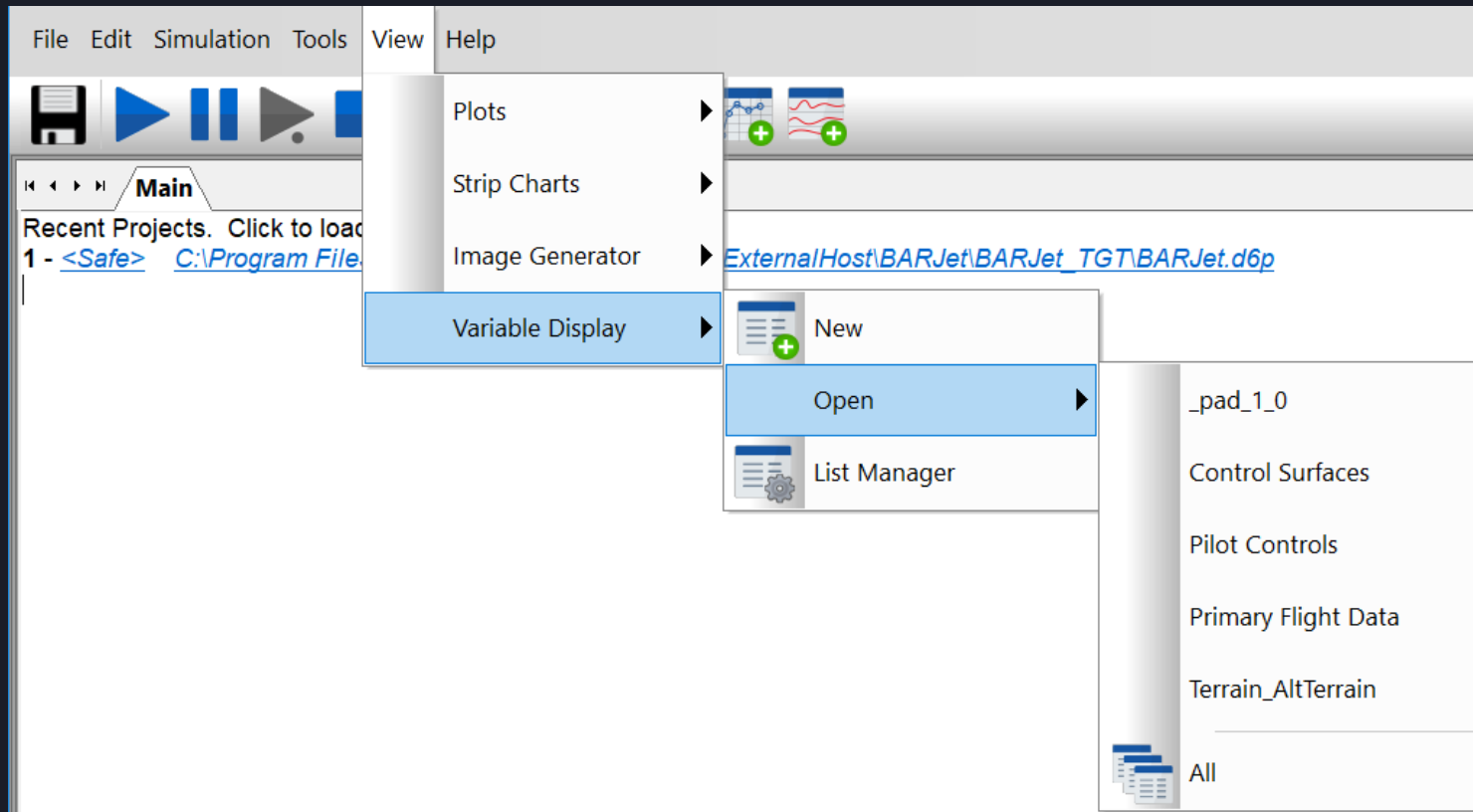
# The VIEW menu

## Image Generator Sub-Menu

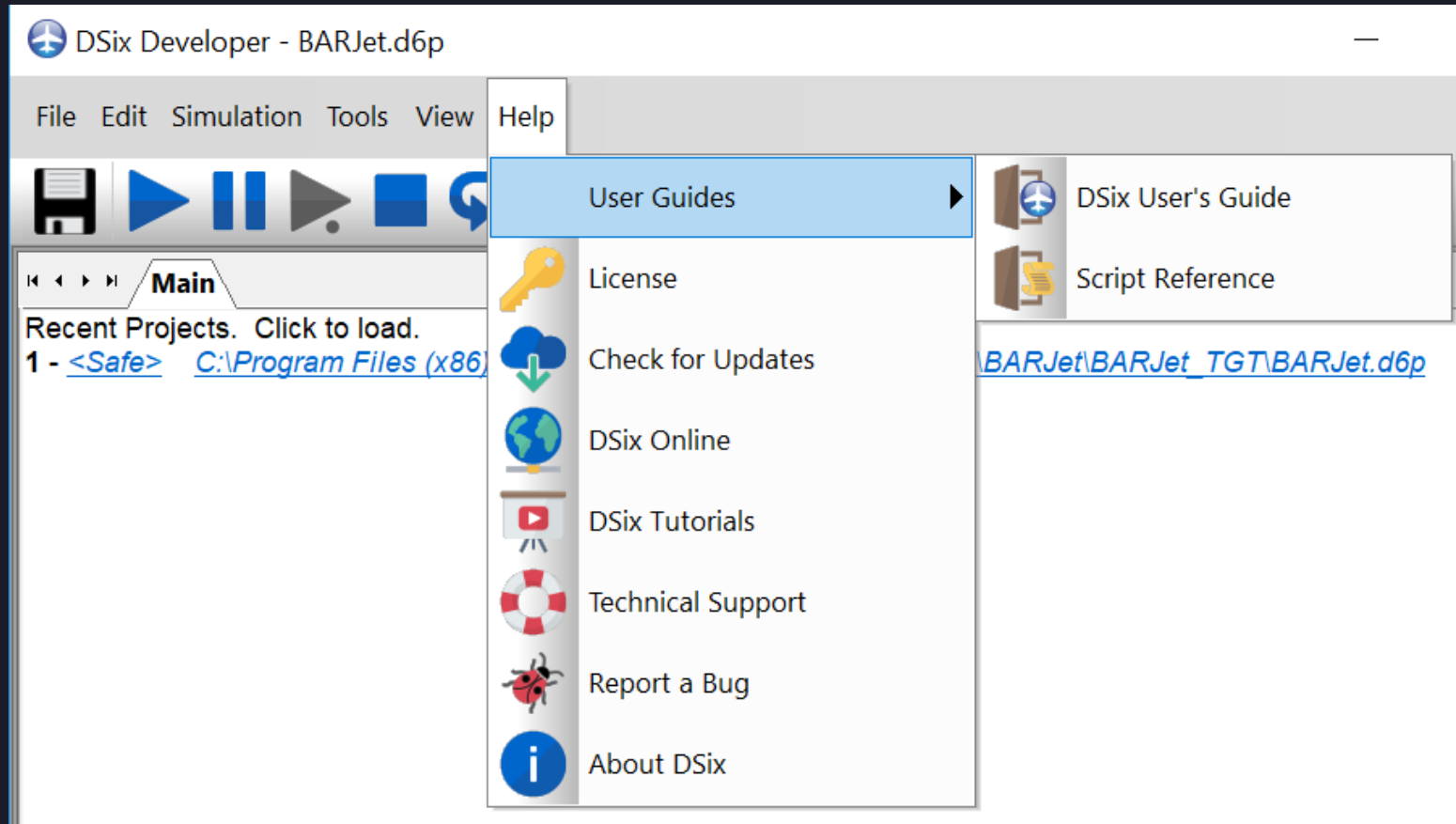


# The VIEW menu

## Variable Display Sub-Menu



# The HELP menu



# A Populated DSix Workspace

The screenshot displays a DSix workspace with the following components:

- DSix Graphics II - HUD 2:** A 3D perspective view of a terrain with a blue sky and clouds.
- DSix Developer - BARJet.d6p\*:** A development console window with a menu bar (File, Edit, Simulation, Tools, View, Help) and a toolbar containing icons for file operations, simulation control, and help. The status bar shows 'Ready', '00:02:01', 'JScript', and 'RT SM'.
- Strip Chart - AirDataOut\_Alpha AirDataOut\_Betadot:** A graph showing two data series over time. The y-axis ranges from -20.00 to 20.00. The x-axis has markers at 34, 36, 38, 40, 42, 44, 46, 48, 50, and 52. The blue line (Alpha) oscillates around 0, while the red line (Betadot) remains near 0.
- Strip Chart - AirDataOut\_Alpha AirDataOut\_Betadot:** A second graph showing two data series over time. The y-axis ranges from -20.00 to 20.00. The x-axis has markers at 94, 96, 98, 100, 102, 104, 106, 108, and 110. The blue line (Alpha) oscillates around 0, while the red line (Betadot) oscillates around -10.
- Primary Flight Data and Control Surfaces:** Two data tables with control icons.

Primary Flight Data				Control Surfaces			
Variable	Val	Def. V...	ICV	Variable	Value	Def. V...	IC Var
AirDataOut_Ycal	231.4	0.0		Da_Left	0.4	0.0	
AirDataOut_Vtrue	457.5	0.0		Da_Ri	-0.4	0.0	
AirDataOut_Mach	0.43	0.00		Dh_Ave	0.0	0.0	
AirDataOut_Alpha	-1.4	0.0		DTEF...	30.0	0.0	
AirDataOut_Beta	0.1	0.0		DTEF...	2.0	2.0	
IMUOut_Alt	108...	0.0		Thrust	2447.4	0.0	
IMUOut_Theta	-3.7	0.0		Thrust	2447.4	0.0	
IMUOut_Phi	7.7	0.0		N1_Left	100.0	0.0	
IMUOut_Psi	5.7	0.0		N1_Ri	100.0	0.0	
IMUOut_Vv	-18.5	0.0					
IMUOut_NzCG	0.9	0.0					
EnvOut_PsidWind	90.0	0.0					



Flight Simulation Environment