

Plane Interface Link Object Tool (PILOT)



Version 1.0
May 9, 2007

A component of:



Simulation and Integration of Ground, Network, and Air Links

Status:

Operational

Connections:

Charter only

Overview:

The PILOT software allows the control of the aircraft during a simulation/exercise run. While SIGNAL only has one piece of PILOT software, this software reconfigures itself to display as the Tower, Terminal or En Route environment interface requires. SIGNAL supports multiple PILOT connects per exercise. One pilot interface can roughly allow control of 30-40 active targets.

Standardized

Pilot is standard between all environments (Tower, Terminal & En Route)

Stop/Start/Pause/Fast_Forward/Record/Replay/Restart

SIGNAL support all the functions required to conduct successful simulation training.

Fix/Route Processing

SIGNAL uses the complete FDEP format in Fix/Route processing. SIGNAL can handle fix..fix, fix.route & fix.route..route. Also, any fix can be represented as a FRD (Fix-Radial-Distance) or Latitude/Longitude point during the processing.

Aircraft Full Time Control

All aircraft are present & available in the list at all times unless they have been dropped. Information for any aircraft can be changed, regardless of state, status and whether the aircraft is active or not.

Interactive Display Interface and Controls

The aircraft can be selected 7 ways;

- By clicking in a list.
- Inputting a CID on the command line.
- Inputting an AID on the command line.
- Inputting a Beacon on the command line.
- By clicking on an aircraft's target.
- By clicking on an aircraft's datablock.

When an aircraft has been selected, a red circle is displayed around that aircraft's target indicating selection. Also, information about this aircraft is displayed in a window on the display. This information is continually updated.

Command Syntax

Once an aircraft is selected as described above, pilot command can now be input. SIGNAL has a mature command set capable of performing all the necessary controls of the aircraft for a successful training environment. Great care has been given to stream lining the command process to make it as easy, straight forward and English like as possible.

Cascading Command Menus

Once an aircraft is selected as described above, pilot command can now be input. Once Command Menus are enabled, then by clicking the Right Mouse button on a target, the Command menus are displayed. These menu support all the SIGNAL Pilot command inputs. Input this way is slower then using the keyboard, but requires less knowledge by the users. By default Command Menus are disabled.

Route Readout Route Readout

An aircraft's route can be displayed by clicking on the aircraft's target with the right mouse button.

Datablock Rotation

An aircraft's datablock can be rotated by following these steps;

- Clicking on the aircraft's datablock with the right mouse button.
- While continuing to hold down the right button, drag the datablock to the new desired location.
- Release the mouse button.

Prompts

Prompts exist for the scenario, system and the aircraft.

- **Scenario Information** - This is an informational area designed to inform the pilot of the important facts and events in the exercise. This window is automatically displayed at the start of the scenario. The Pilot can use the Scenario Information button to toggle this window up/down as needed.
- **System Prompts** - The Pilot can use the System Prompt button to toggle this window up/down as needed. When a new system prompt happens, the System Prompt window is displayed. All prompts are time tagged and available for the duration of the exercise.
- **Aircraft Prompts** - Once an aircraft is selected, the aircraft's associated Pilot Prompts can be displayed in the Pilot Prompt window. The Pilot can use the Pilot Prompt button to toggle this window up/down as needed. When a new prompt happens, the pilot gets two indicators of a new prompts. First, by the aircraft's list entry a "P" is displayed. Second, the aircraft datablock will turn white and flash. These indicators will continue until the prompt is read. All prompts are time tagged and available for the duration of the exercise.

Weather

Support 10 levels of weather intensity. Weather can be displayed as analog or digital. We support several formats of digital display.

A weather pattern consists of weather cells. Each weather cells has a user drawn polygon shape and heavy weather indicators, assigned upper & lower altitude limits, speed & direction. Direction and speed both have a variation field. Example: If 40 was in the speed field and 5 was in the variation field, then the speed of the weather cell would vary from 35-45. The amount of variation is determined using the random generator.

Approaches

To land an aircraft simply assign an airport to an aircraft. Press the Approach button and select from the displayed list of valid approaches for the airport. SIGNAL supports all standard approaches as well as visual and visual follow on approaches.

Departures

As aircraft reach their assigned departure time, they are added to the on screen departure list. They also get a "D" added next to the aircraft's name in the aircraft list. To depart on aircraft, simply click on the aircraft in the list and press "Enter". Once the aircraft has departed it is removed from the departure list.

Range Bearing

Constant Range Bearing readout is available. The data available is distance and headings. These formats are

- Point to Point
- Point to Aircraft
- Aircraft to Point
- Aircraft to Aircraft

On-The-Fly Flight Plan Creation Tool

During the running of an exercise, additional aircraft can be introduced into the exercise as desired. This is done via the pilot interface. These aircraft can be input as departures or aircraft already flying. This function uses the FAA's FDEP format. There is no limit as to the number of aircraft that can be added.

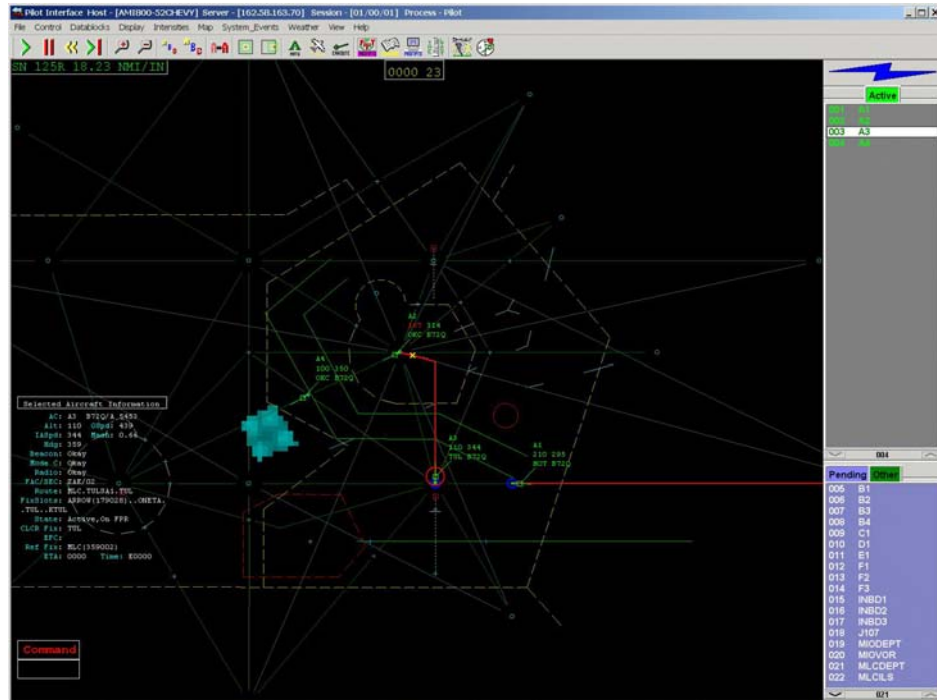
The purpose of this tool is to allow the instructor to interface with SIGNAL and be able to step up a learning situation as needed that may not presently exist in the collection of scenarios or to enhance the complexity of a scenario as a learning tool.

On-The-Fly Screenshot

Display Intensity Setting

PILOT allows the intensities of the Map, Targets, Datablocks, Alpha-Numeric (Text), Weather and Range Marks elements to be changed to suit the users. This ability is important as intensities may need to be changed depending on the lighting conditional of a room. When PILOT is started, the intensities are initially preset to suggested settings.

Additional information can be found in the Library. Reference the [Pilot Users Manual](#).



PILOT Screenshot 1 & 2

