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## ***IADS X-Plane Data Source Plugin***

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# 1. Introduction

This document describes the IADS X-Plane data source plugin developed to send data from the X-Plane simulator to IADS in real time. This can be useful for training scenarios and to help build displays in a post test environment.

IADS currently supports X-Plane 10.

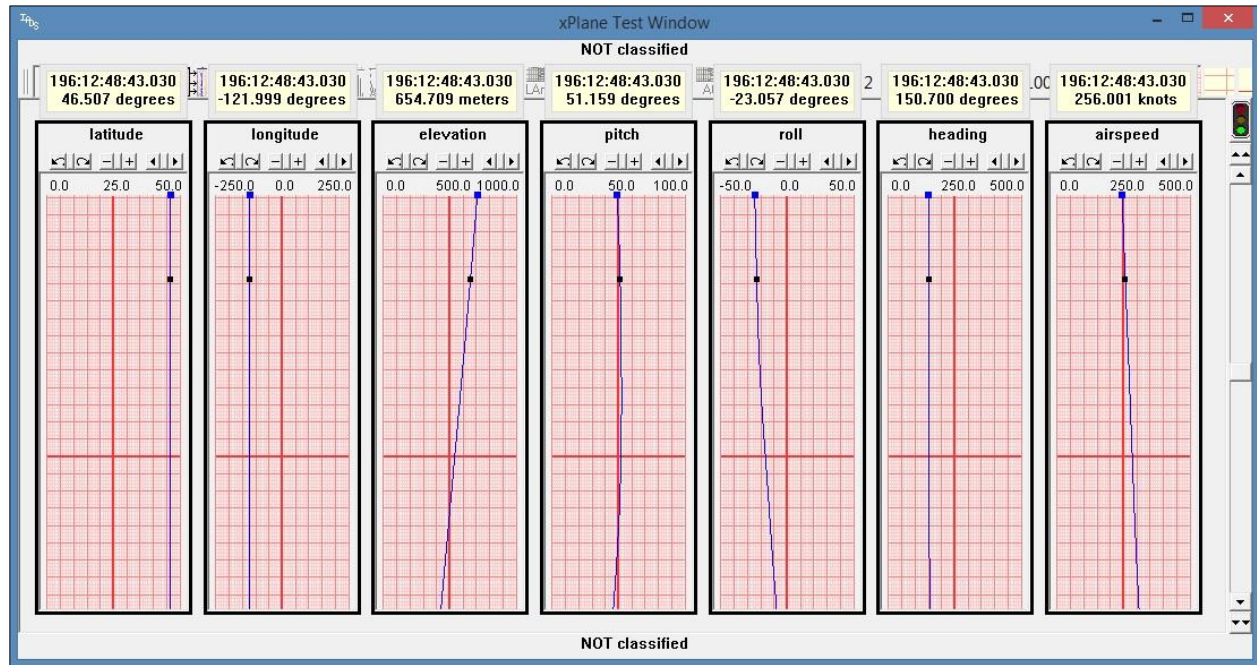


Figure 1-1 X-Plane Parameters in IADS

## 1.1. Overview

The IADS X-Plane data source plugin is provided as a zip file and contains the following files:

- 1) IADS X-Plane Data Source Plugin.pdf – The user guide.
- 2) XPlaneVarFileEntireSim.csv – Includes every X-Plane variable for the simulator (current version) in a format compatible with the xPlaneVarFile.csv; and IADS.
- 3) xPlaneIOM\_32.xpl – The IADS X-Plane 32 bit data source plugin.
- 4) xPlaneIOM\_64.xpl – The IADS X-Plane 64 bit data source plugin.

## 2. Setup

### 2.1. To install the IADS X-Plane Plugin

- 1) Copy the xPlaneIOM\_32.xpl and xPlaneIOM\_64.xpl files to the X-Plane directory you designated on install: \X-Plane 10\Resources\plugins.
- 2) Run X-Plane.
- 3) To verify the plugin is enabled, at the top of the X-Plane window click **Plugins > Plugin Admin > Plugin Information**.

**Note:** The default IADS Working Folder is created automatically by the plugin at C:\Users\Public\Documents\Iads\IadsXPlaneFiles. This directory contains the xPlaneVarFile.csv file, and the IadsXPlane.prn and IadsXPlane.iadsConfig setup files you use in the start wizard to run IADS.

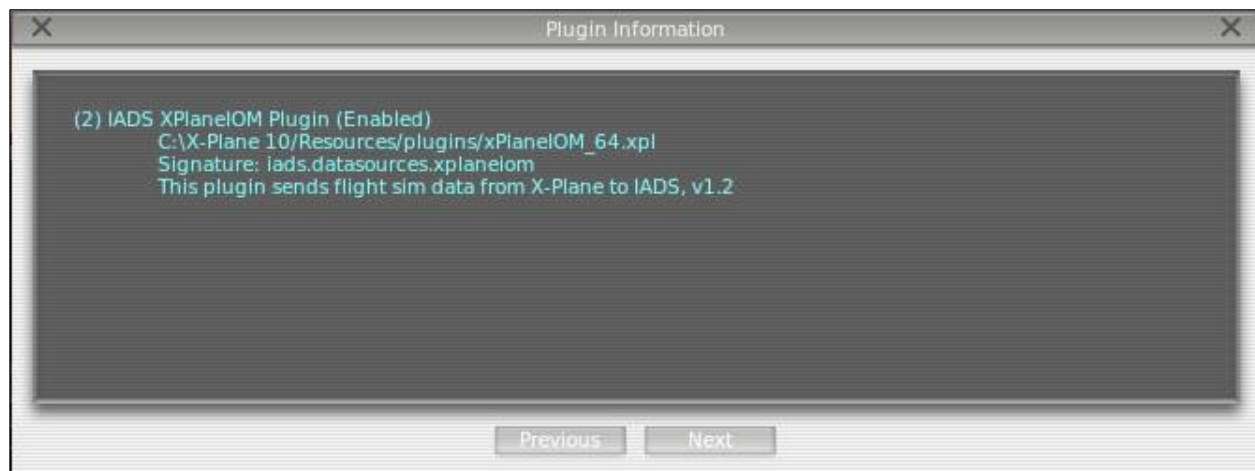


Figure 2-1 IADS xPlaneIOM Plugin Information

### 2.2. To set Control Panel Firewall settings for the X-Plane IADS Interface

- 1) Go to **Control Panel > Windows Firewall**.
- 2) Click on **Advanced Settings**.
- 3) Click on **Inbound Rules > New Rule**.
- 4) Click the Program rule type > **Next**.
- 5) Browse to the **X-Plane.exe** (or **X-Plane-32bit.exe**) > **Open > Next**.
- 6) Select **Allow the connection > Next**.
- 7) Select the checkboxes for all the rules that apply (Domain, Private, Public) > **Next**.
- 8) In the Name field enter: **X-Plane IADS Interface**.
- 9) Click **Finish**.
- 10) Repeat for the 32 bit/64 bit exe as necessary.

### 2.3. To display the IADS window overlay in X-Plane

The IADS window overlay in the X-Plane application, displays the parameters defined in the xPlaneVarFile.csv file and their values. The debug window is set to off by default. Use the hotkey below to display the window overlay in X-Plane:

- 1) Place your cursor in the X-Plane window.
- 2) Press **Shift ~** (tilde key).
- 3) Pressing the hotkey again (**Shift ~**) deactivates the debug window.

**Note:** To change the hotkey, go to the X-Plane hotkey settings at: **Plugins > Plugin Admin > Hotkey Admin**.



Figure 2-2 IADS Window Overlay in X-Plane

### 3. Running IADS with X-Plane




You can run IADS using X-Plane data with IADS Real Time Station, or using the IADS Operator Console; two distinct IADS products. Whether you have one application and/or the other depends on your IADS installation media and licensing. Examples of each process are described below.

**Note:** The default IADS Working Folder is created automatically by the IADS X-Plane Plugin at C:\Users\Public\Documents\Iads\IadsXPlaneFiles.

#### 3.1. To run IADS using Real Time Station



- 1) Run X-Plane.
- 2) Double-click the **IADS Realtime Station** icon on the Desktop.
- 3) In the start wizard, click the *Data Source* drop down and select **IADS Custom > Next**.
- 4) Enter the *Host Name* of the computer that has the X-Plane software > **Next**.
- 5) Select the **IadsXPlane.prn** file in the IADS Working Folder on the machine that is running X-Plane > **Next**. See section 3.4 to access the IADS Working Folder on a remote machine.
- 6) Select a destination directory for the IADS data, for example, **C:\IadsOutputFiles > Next**.
- 7) At the “Choose existing config file” select the **IadsXPlane.iadsConfig** file in the IADS Working Folder on the machine that is running X-Plane > **Next**. See section 3.4 to access the IADS Working Folder on a remote machine.
- 8) Review your wizard settings > **Finish**.

#### 3.2. To run IADS using the Operator Console



- 1) Run X-Plane.
- 2) Create an Operator Console Startup File – see section 3.3.
- 3) Double-click the **IADS Operators Console** icon on the Desktop.
- 4) Click **File > Open**.
- 5) Click on the **XPlane.iadsStartupFile** in the IADS Working Folder > **Open**.
- 6) Click the  **Start the Server** button.
- 7) Click **OK** in the file management dialog.
- 8) Click the  **Start the Server Data Gather** button.
- 9) Click the  **Start the IADS Clients Displays** button.
- 10) Click the **Log On** button in the *IADS Log On* dialog to bring up IADS.

**To bring down IADS and the Operator Console:**

- 1) Click the  **Stop the IADS Client Displays** button in the Operator Console; or click the **Log Off** button on the Dashboard in IADS.


- 2) Click the  **Stop the Server Data Gather** button.
- 3) Click the  button in the top right corner of the Operator Console window.
- 4) Click **Yes** to exit all IADS applications.

### 3.3. To create an Operator Console startup file

- 1) Double-click the **IADS Operators Console** icon on the Desktop.
- 2) Click **Create > New IADS Server**.
- 3) In the start wizard, click the *Data Source* drop down and select **IADS Custom > Next**.
- 4) Enter the *Host Name* of the computer that has the IADS software > **Next**.
- 5) Enter the *Host Name* of the computer that has the X-Plane software > **Next**.
- 6) Select the **IadsXPlane.prn** file in the IADS Working Folder > **Next**.
- 7) Select a destination directory for the IADS data, for example, **C:\IadsOutputFiles > Next**.
- 8) Select the (starting) **IadsXPlane.iadsConfig** file in the IADS Working Folder > **Next**.
- 9) Review your wizard settings > **Finish**.
- 10) Click **Create > New IADS Client Display**.
- 11) Right-click on the *NewWorkstation* object > **Properties**.
- 12) Set the *HostName* property to the IADS Client machine name and click the  button to close the property sheet.
- 13) Click **File > Save As...** and save the Operator Console startup file with your settings, into your IADS Working Folder, for example, **XPlane.iadsStartupFile**.
- 14) Click the  button in the top right corner of the Operator Console window.
- 15) Click **Yes** to exit all IADS applications.

### 3.4. To Access the IADS Working Folder on a Remote PC

**Note:** The default IADS Working Folder is created automatically by the IADS X-Plane Plugin in the Windows Public Documents folder on the machine running the X-Plane program. To allow access to these files in the IADS Working Folder from a remote machine, for example, if Real Time Station is installed on a machine other than X-Plane, follow the steps below:

- 1) On the X-Plane machine, click the **Start** button.
- 2) In the Search field enter **Sharing**. Click on **Manage advanced sharing settings**.
- 3) At **All Networks > Public folder sharing**, click the “**Turn on sharing so anyone with network access can read and write files in the public folders**”.
- 4) Click the **Save Changes** button.
- 5) In the IADS Start Wizard at the select file page, click the  button and navigate to:  
**Network > ComputerName > Users > Public > Public Documents > Iads > IadsXPlaneFiles**
- 6) Select the file > **Next**.

## 4. Parameter Management

### 4.1. To add X-Plane variable parameters to the configuration

- 1) Close IADS.
- 2) Close X-Plane.
- 3) In Excel, open the *XPlaneVarFileEntireSim.csv* provided with the IADS X-Plane plugin (click the drop down in Excel and select **All Files (\*.\*)** to make available the CSV file for selection).
- 4) Click on the row number (to select the entire row) of the desired DataRef variable and copy the entire line (Ctrl+c), for example:  
sim/cockpit/warnings/annunciators/oil\_pressure cockpit warnings annunciators oil pressure low
- 5) In Excel, open the *XPlaneVarFile.csv* in the IADS Working Folder.
- 6) Paste (Ctrl+v) the new variable into the first empty *XPlaneVariableName* cell as shown below.
- 7) Repeat as necessary for each new parameter.

	A	B	C	D	E	F
1	XPlaneVariableName	Group	SubGroup	ShortName	LongName	Units
2	sim/flightmodel/position/latitude	Flight Model	Position	latitude	latitude	degrees
3	sim/flightmodel/position/longitude	Flight Model	Position	longitude	longitude	degrees
4	sim/flightmodel/position/elevation	Flight Model	Position	elevation	elevation	meters
5	sim/flightmodel/position/indicated_airspeed	Flight Model	Position	airspeed	indicated airspeed	knots
6	sim/flightmodel/position/psi	Flight Model	Position	heading	heading	degrees
7	sim/flightmodel/position/phi	Flight Model	Position	roll	roll	degrees
8	sim/flightmodel/position/theta	Flight Model	Position	pitch	pitch	degrees
9	sim/flightmodel/position/beta	Flight Model	Position	yaw	sideslip	degrees
10	sim/flightmodel/position/alpha	Flight Model	Position	angle of attack	angle of attack	degrees
11	sim/flightmodel/position/P	Flight Model	Position	roll rate	roll rate	degrees/sec
12	sim/flightmodel/position/Q	Flight Model	Position	pitch rate	pitch rate	degrees/sec
13	sim/flightmodel/position/R	Flight Model	Position	yaw rate	yaw rate	degrees/sec
14	sim/cockpit/warnings/annunciators/oil_pressure	cockpit	warnings	annunciators	oil pressure low	bitfield

Figure 4-1 IADS X-Plane Variables

- 8) Save the *XPlaneVarFile.csv* (the CSV file must keep the same name and saved in the IADS Working Folder at C:\Users\Public\Documents\Iads\IadsXPlaneFiles).
- 9) Run X-Plane. The *IadsXPlane.iadsConfig* file will be updated with the new parameters.
- 10) Run IADS as outlined in section 3.0.