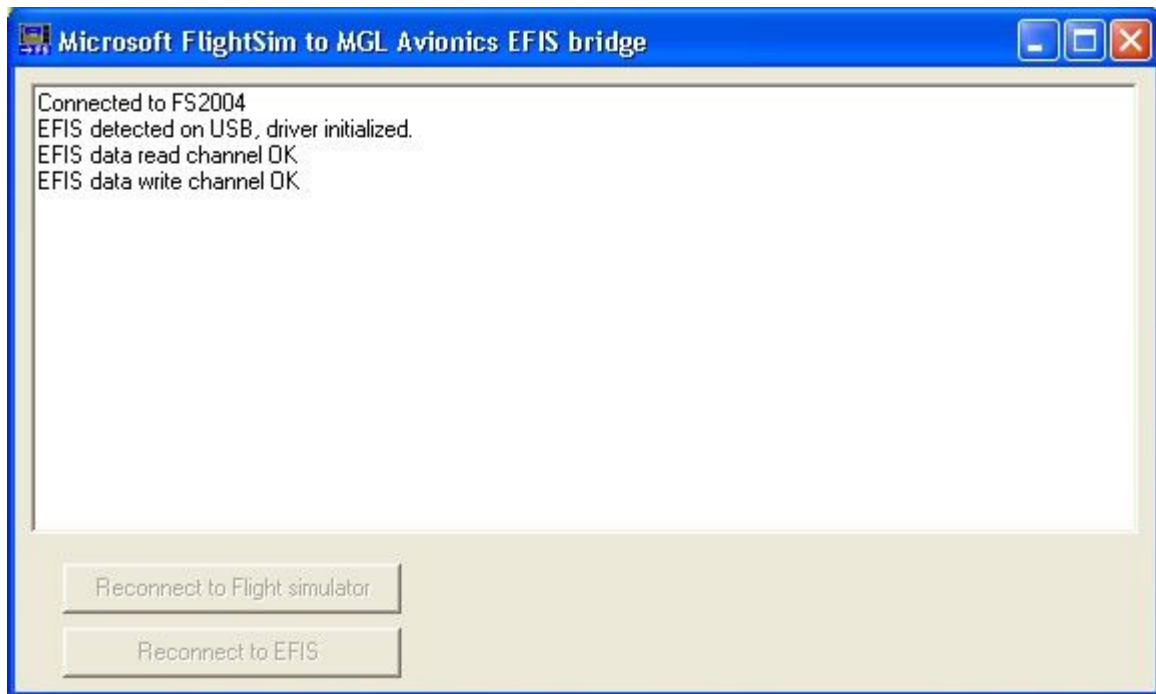


Microsoft Flight Simulator to MGL Avionics EFIS bridge



General

MGLUEFIS is a software package intended to run on a Windows platform.

Using this package, it becomes possible to connect a MGL Avionics Enigma, Voyager or Odyssey EFIS to Microsoft's Flight Simulator. This is useful to create a low cost flight simulator using a real EFIS or to experiment with the EFIS in various simulated conditions before installation into an aircraft.

MGLUEFIS Components

MGLUEFIS consists of three major components:

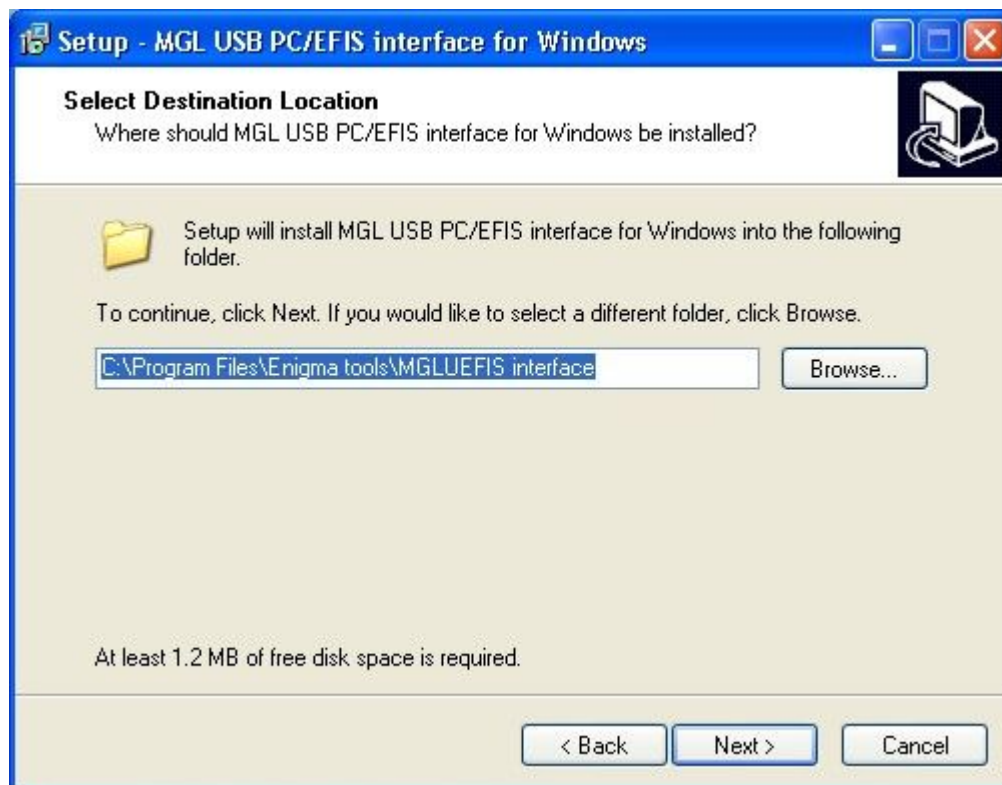
- 1) The MGLUEFIS.exe program. This program is the visual interface that executes on a Windows platform.
- 2) The MGLUEFIS.sys device driver. This driver provides the USB data transport layer between the PC USB port and the MGLUEFIS.exe program.
- 3) The FSUIPC.dll dynamic link library. This is a shareware interface library created by Peter Dowson. Web link: <http://www.schiratti.com/dowson.html> (valid January 2009).

Installation

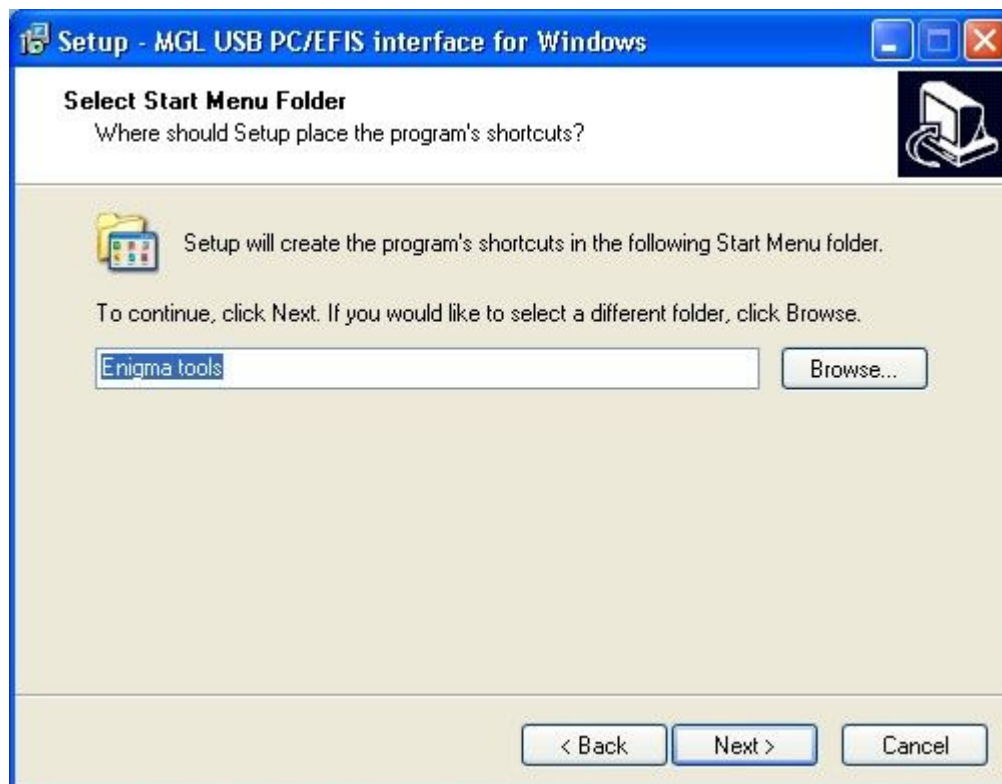
Execute the MGLUEFIS.exe installation program (free download from www.MGLAvionics.co.za – Enigma tools page).



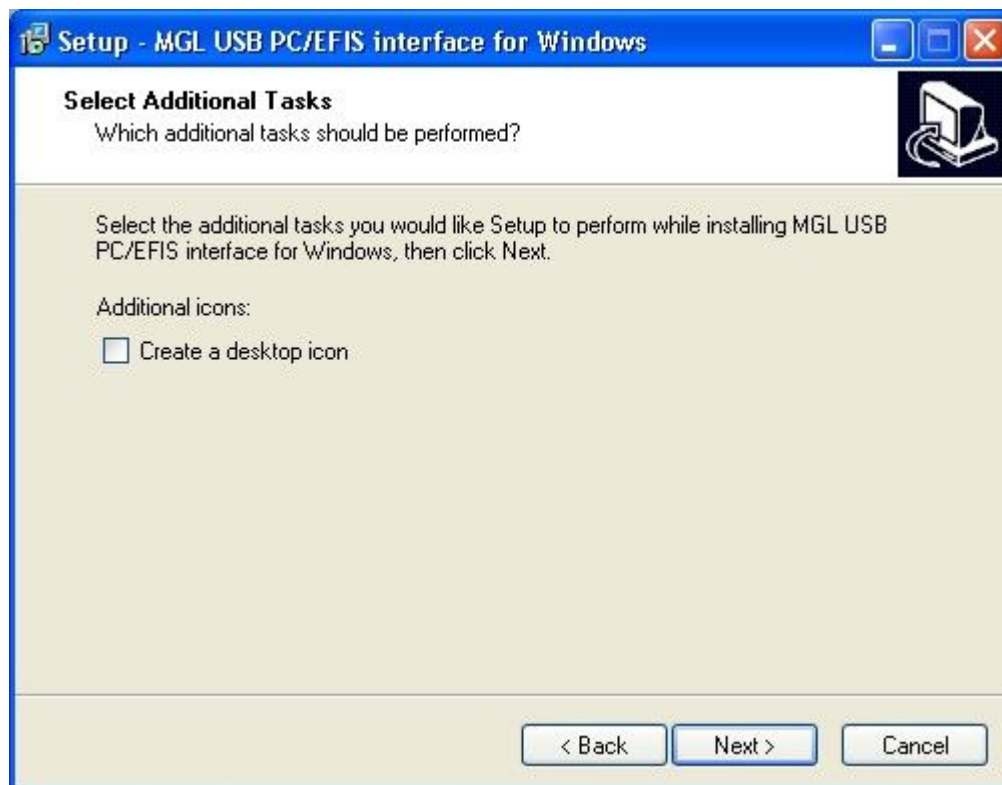
Click the Next button...



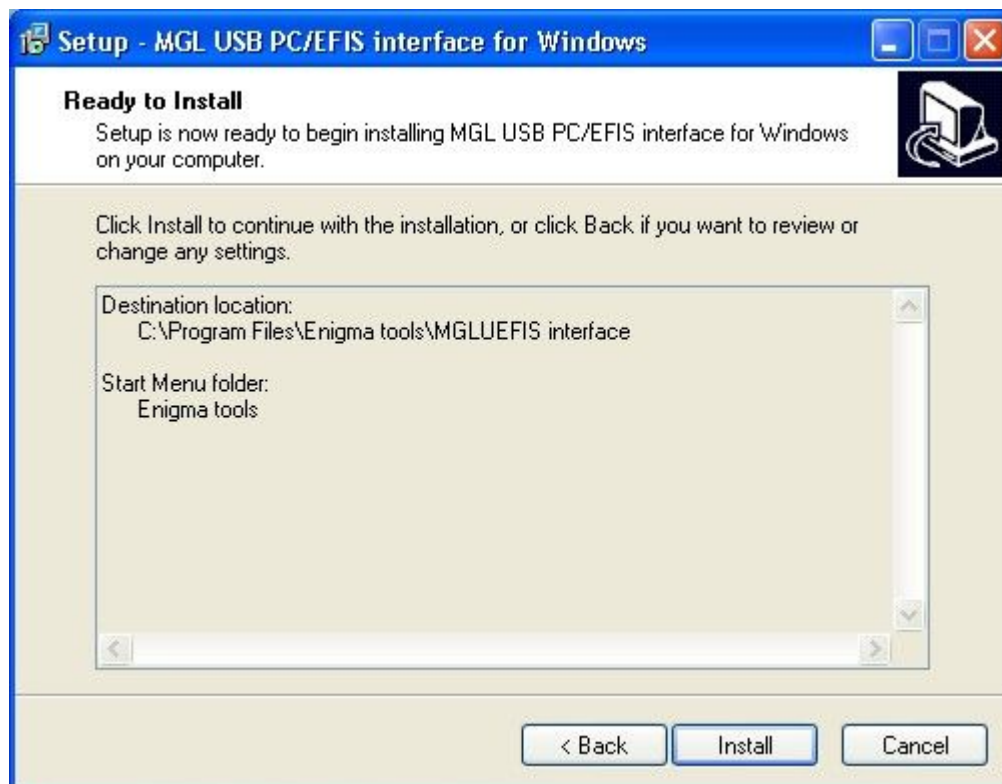
Select your target folder for the MGLUEFIS installation or keep the suggested default. Click on the Next button...



Select a shortcut folder (we recommend you accept the offered default). Click Next...



If you would like to be able to start the MGLUEFIS from your desktop, click the selection. When done, click the Next button...

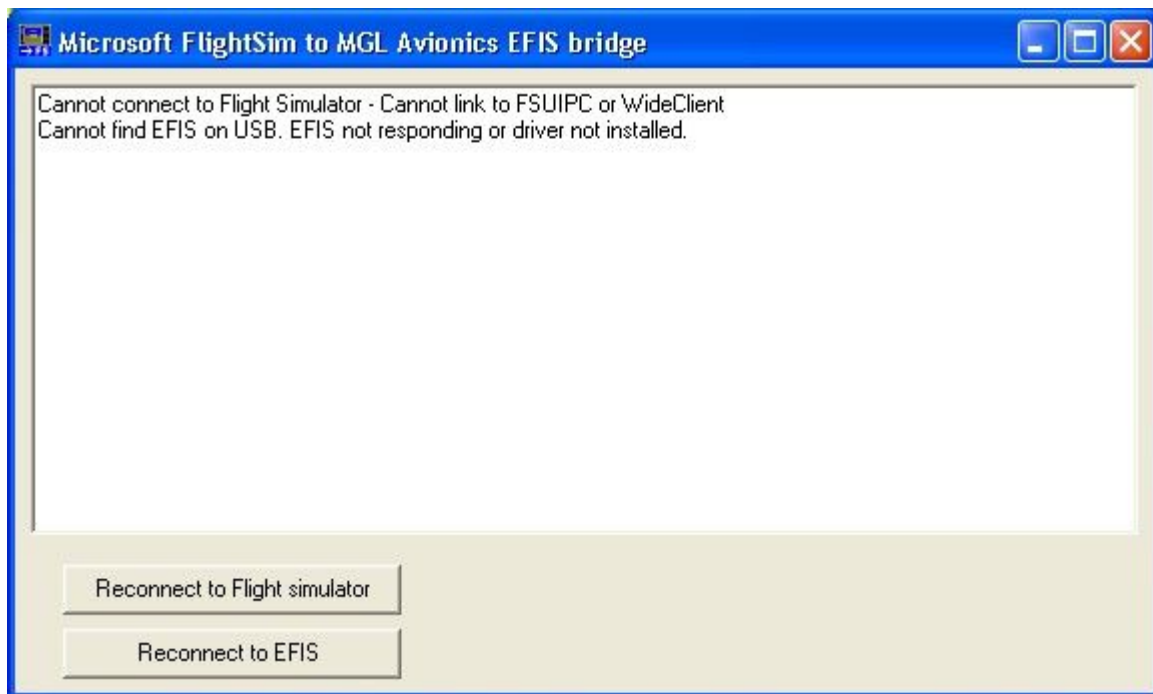


Confirm your selections – go back to change or click Install...



When done click the Finish button...

If you have selected to launch the program, it will start next.



This is the window of the MGLUEFIS program. In this case it has not been able to connect to either Microsoft's Flight Simulator or an MGL EFIS. This is expected for a new installation as you will need to do some more work...

Installing the device driver

After installing the MGLUEFIS program, you need to install the device driver. This driver forms the interface between the MGLUEFIS program and your PC's USB port.

Plug your EFIS into an available PC USB host port using a standard USB printer cable. The device end of the cable should be connected to the EFIS USB device port.

After a short while, Windows should show a dialog similar to the one below:

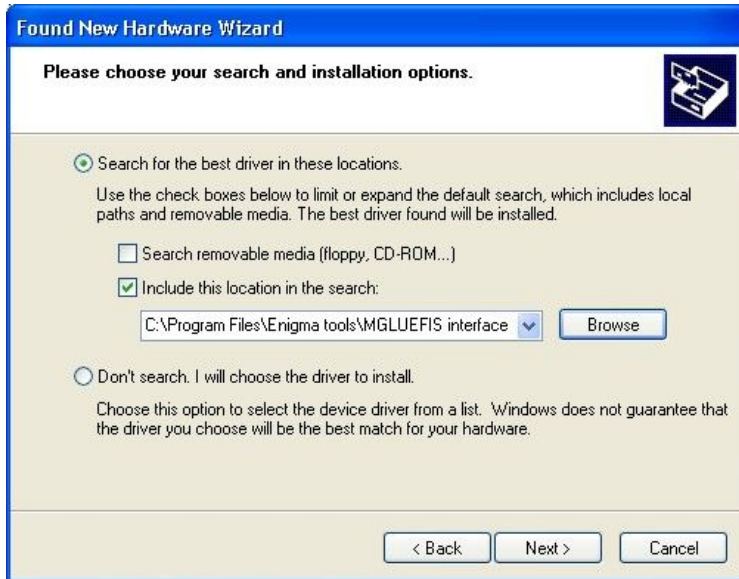


Select the “No, not this time” option and then click Next...



Select “Install from a list or specific location (Advanced)”. Then click Next...

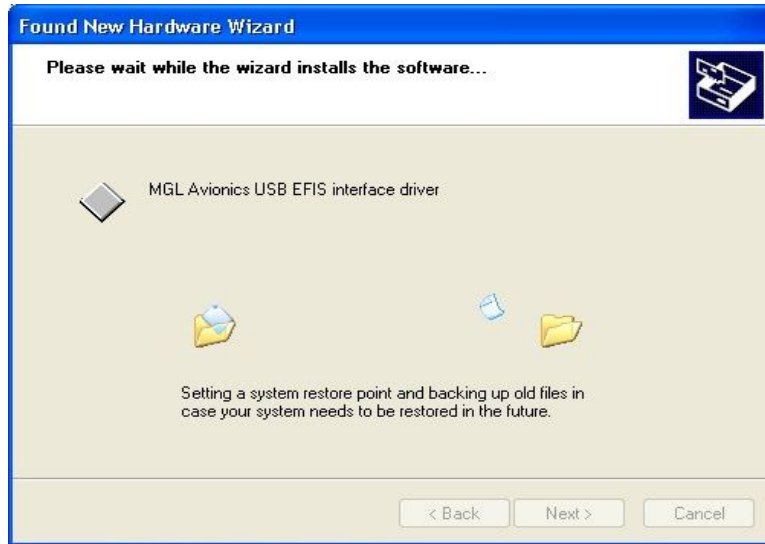
When prompted, direct the system to your MGLUEFIS installation folder. Here are two files named MGLUEFIS.sys and MGLUEFIS.inf which together form the components of the USB device driver for the MGLUEFIS system.



When done click the Next button...



You may be presented with the above dialog. Click "Continue anyway".



Wait until the installation completes. You may be presented with another dialog asking you to insert a CD or browse for a path to your device driver. If this happens, browse to the same folder you did previously, the one that contains your MGLUEFIS installation and device drivers.



When you see the above dialog your device driver has been installed. Click the Finish button.

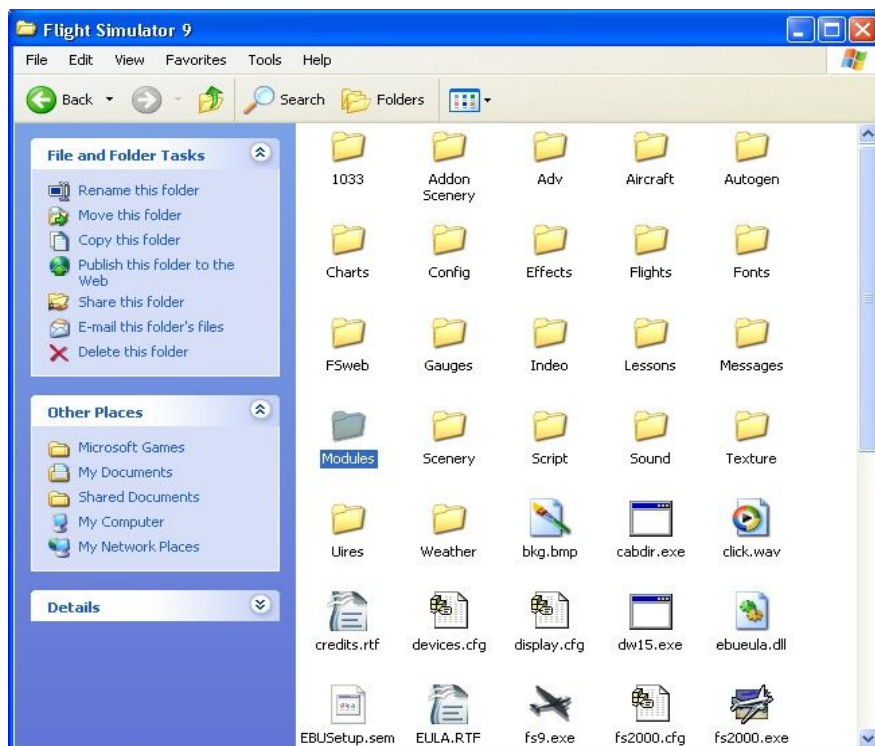
Installing the FSUIPC DLL

Using Windows Explorer, browse to your MGLUEFIS installation folder.



You should be able to see the file FSUIPC.dll. If you do not see this file, change your folder options to show hidden and system files.

Locate your Microsoft Flight Simulator folder. You should be able to find a folder named "Modules".



Copy or move the FSUIPC.dll file into the Modules folder.

Please note: FSUIPC.dll works with Flight Simulator versions up to FS2004 Century of Flight.

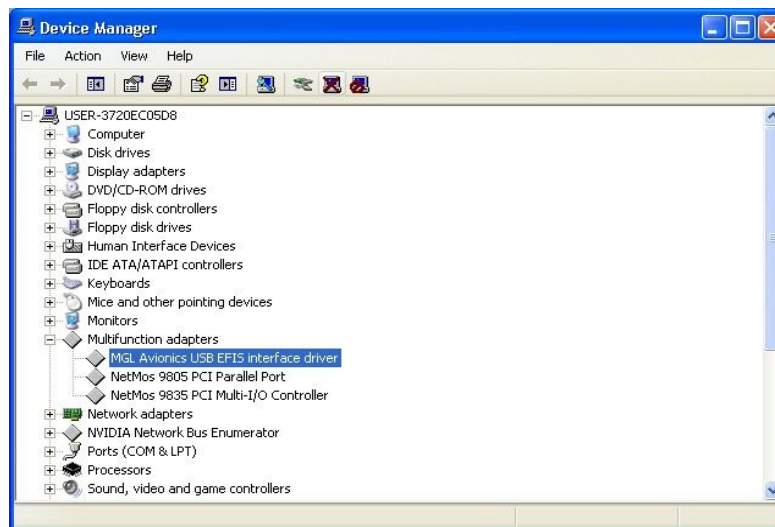
If you intend using FSX, you need to use the FSUIPC4 package which you can download from Peter Dowsons Web page at <http://www.schiratti.com/dowson.html> (Link valid January 2009). FSUIPC4 has its own installation program.

We recommend that you use either FS2002 or FS2004.

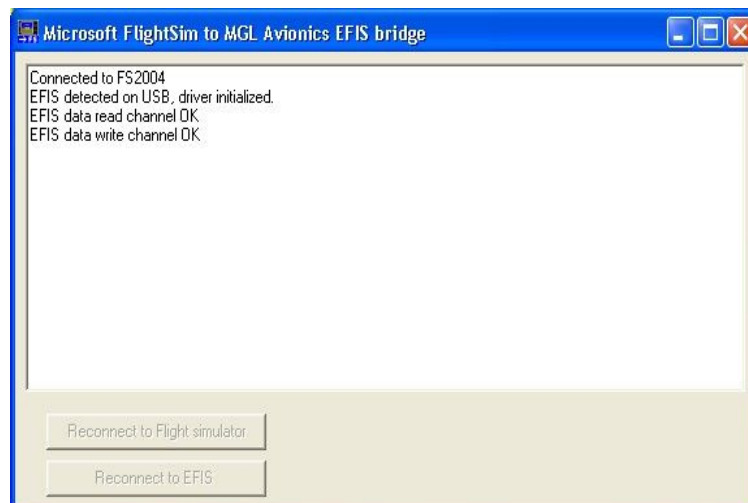
Running MGLUEFIS for the first time

Start your copy of Microsoft's Flight simulator. Ensure that the MGL Efis is running and plugged into your PC. Verify that the USB device driver is loaded. You can do so using the Control Panel System Icon.

Click on the Hardware tab and then select Device manager. You should be able to see the MGL driver under the Multifunction devices. Note: You will only see this entry if the EFIS is plugged in and running.



Now run MGLUEFIS. You should be presented with the following window:



If you see the above window your EFIS is connected to your Flight simulator. Primary flight instruments, AHRS and GPS related items should now be functional.

Please note that early versions of MGLUEFIS do not pass on engine data. This will be added in a later update.

We recommend that you install terrain data, maps and navigation data in your EFIS so it becomes fully functional with your Flight Simulator interface.

Startup sequence

MGLUEFIS should be started after the MGL EFIS has been connected and switched on and after Microsoft Flight Simulator has been started with an active aircraft.

You can use the “Reconnect to Flight Simulator” or “Reconnect to EFIS” buttons should either start up after MGLUEFIS has been launched.

Known issues

Microsoft's navigation database may differ from that of the EFIS. This may result in airports in the EFIS database not showing in the flight simulator (mainly for smaller fields).

It is possible that FlightSim airports and runways are at slightly different locations compared to those of the EFIS database. This is usually apparent when you practice GLS approaches.

Locations and details of navigation aids may differ.

Terrain data may differ. For areas less well represented in FlightSim terrain may appear smoother than that shown in the EFIS. Mountains may look less impressive.

Smaller terrain peaks may be shown at slightly different locations.

AHRS updates on the EFIS may be at a lower rate compared to a real AHRS connected to the EFIS. This is mainly a performance issue of the PC. We recommend that a dual core PC with at least 2GByte of RAM (more if you use FSX) is used. A good graphics card is a must in order to offload the processor from CPU time consuming drawing tasks.

On slower systems the AHRS may appear noticeably jerky during fast roll or pitch movements. This however does not affect the real time performance of the system. This behavior may be improved if you select lower frame rates, lower resolution and less detail for the FlightSim display.

FSUIPC

FSUIPC is a interface library written by Peter Dowson and distributed as shareware. If you find this application useful, we would like to ask you to contribute to Peter's excellent efforts.

You can do so by buying a license for FSUIPC. You will find details on Peter's web page at <http://www.schiratti.com/dowson.html> on how to do this. It is very inexpensive.