**Installation on a PC under Windows.**

1. Download the msys installer from https://www.msys2.org/
2. Run **msys2-x86\_64-20240507.exe** (the actual filename may be different)
3. Start msys2 from **c:\msys64\mingw64.exe**
4. Enter the following commands from the terminal:

**pacman -Syu**

**pacman -Su**

1. Download the folder **sim/** to C: and the folder **sim-include/**
2. Make a folder **/c/msys64/mingw64/include/SIM/**
3. Copy the files in **sim-include/** to **/c/msys64/mingw64/include/SIM/** and **/c/msys64/usr/include/SIM/**
4. Make a folder **/c/sim/**
5. Copy the files in **sim/** to **/c/sim/**
6. To download and install the system-wide library files, enter:

**pacman -S mingw-w64-x86\_64-glfw**

**pacman -S mingw-w64-x86\_64-glew**

**pacman -S mingw-w64-x86\_64-freetype**

**pacman -S mingw-w64-x86\_64-freeimage**

**pacman -S mingw-w64-x86\_64-openal**

**pacman -S mingw-w64-x86\_64-freealut**

**pacman -S mingw-w64-x86\_64-cglm**

**pacman -S mingw-w64-x86\_64-libpng**

**pacman -S mingw-w64-x86\_64-libzip**

**pacman -S gcc**

**pacman -S base-devel**

1. copy the folder **/c/msys64/mingw64/lib/** to **/c/msys64/usr/lib/**
2. To install the simulator 747 flight model software, enter:

**cd /c/sim/libs/**

**make clean**

**make**

**cd /c/sim/b747/**

**make clean**

**make**

1. to run the 747 flight model enter:

**cd /c/sim/b747/**

**./b747**

**Points to note:**

1. The installation procedures outlined above are applied to all the simulator computers. Note that the IOS software is built in a folder **/c/sim/ios/** and run by entering **./ios**.
2. The simulator terminals run at a resolution 1024x768.
3. Stand-alone demonstrations can be built by entering **make -f Makefile.demo** and run by entering **./demo**.
4. The simulator computers must run with a static IPV4 address set to **192.168.1.x**, with all other Ethernet settings disabled, where **x** is given by:
5. RPi1 (I/O system 1)
6. RPi2 (I/O system 2 – only used by Cranfield LFS)
7. PFD (aerodynamic model, undercarriage model, equations of motion, PFD display)
8. ENG (engine model, sound system, EICAS display)
9. NFD (navigation, avionics, NFD display)
10. IOS (instructor operating station)
11. IG left channel
12. IG centre channel
13. IG right channel
14. Matlab

**Installation on a PC under Linux (RPi).**

1. Download the folder **sim/** and the folder **sim-include/**
2. Make a folder **/usr/include/SIM/**
3. Copy the files in **sim-include/** to **/usr/include/SIM/**
4. Make a folder **/sim/** in a user folder
5. Copy the files in **sim/** to **/sim/**
6. To download and install the system-wide library files, enter:

**sudo apt install glfw**

**sudo apt install glew**

**sudo apt install freetype**

**sudo apt install freeimage**

**sudo apt install openal**

**sudo apt install freealut**

**sudo apt install cglm**

**sudo apt install libpng**

1. To install the simulator 747 flight model software, enter:

**cd /sim/libs/**

**make clean**

**make**

**cd /sim/b747/**

**make clean**

**make**

1. to run the 747 flight model enter:

**cd /sim/b747/**

**./b747**

**Points to note:**

1. The installation procedures outlined above are applied to all the simulator computers. Note that the IOS software is built in a folder **/c/sim/ios/** and run by entering **./ios**.
2. The simulator terminals run at a resolution 1024x768.
3. Stand-alone demonstrations can be built by entering **make -f Makefile.demo** and run by entering **./demo**.
4. The simulator computers must run with a static IPV4 address set to **192.168.1.x**, with all other Ethernet settings disabled, where **x** is given by:
5. RPi1 (I/O system 1)
6. RPi2 (I/O system 2 – only used by Cranfield LFS)
7. PFD (aerodynamic model, undercarriage model, equations of motion, PFD display)
8. ENG (engine model, sound system, EICAS display)
9. NFD (navigation, avionics, NFD display)
10. IOS (instructor operating station)
11. IG left channel
12. IG centre channel
13. IG right channel
14. Matlab