Making everything easier !
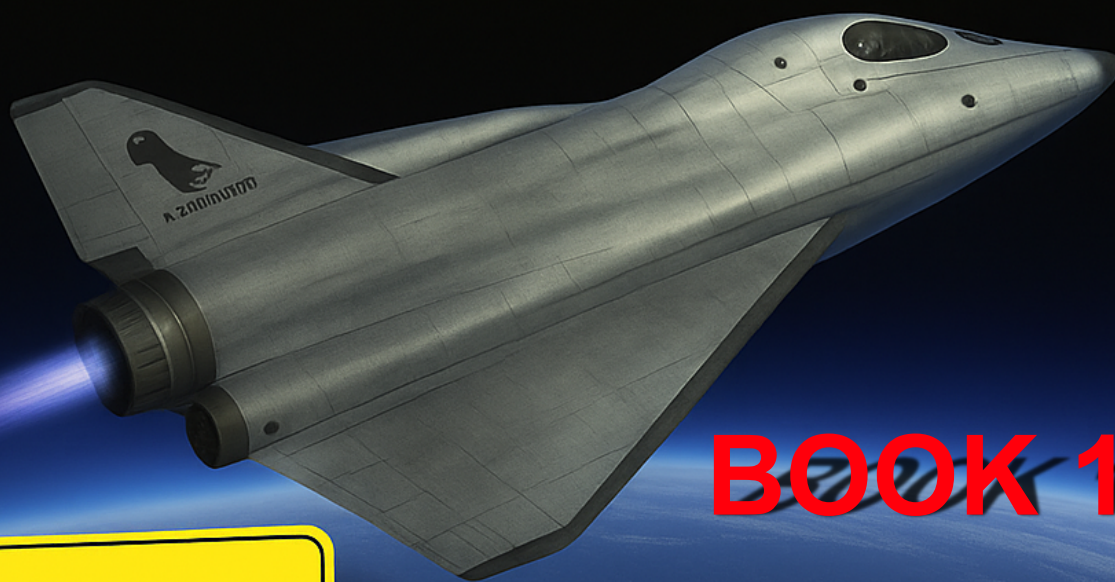
From the Earth to the Moon

WITH THE

XR2 RAVENSTAR

BOOK 1

For Orbiter 2024

Learn to fly in space without losing your mind!

Coussini (2025)

Installation of Orbiter 2024 and elements for this trip

To help you complete this tutorial, my friend **ChatGPT** helped me optimize the fuel for this beautiful journey with **Orbiter 2024**.

A) Here is the list of elements necessary to complete this tutorial

Orbiter 2024
https://www.orbiter-forum.com/resources/orbiter-2024.5634/
01 - Your brand new XR2 Ravenstar.
https://www.orbiter-forum.com/resources/xr2-official-for-orbiter-2024.5644/
02 - Lunar Transfer MFD.
https://www.orbiter-forum.com/resources/lunartransfer-mfd-ltmfd.5501/
03 - Burn Time Calc MFD.
https://www.orbiter-forum.com/resources/burntimecalcmfd-btc-3-1-for-orbiter-2016.736/
04 - Base Sync MFD.
https://www.orbiter-forum.com/resources/basesyncmfd-3-3-for-orbiter-2016.2705/
05 - Universal Autopilots.
https://orbiter-forum.com/resources/universal-autopilots-0-3-1.212/
06 - Pursuit MFD.
https://www.orbiter-forum.com/resources/pursuitmfd-2016.3096/
07 - Moon Landing Pad replacement
https://www.orbiter-forum.com/resources/moon-landing-pad-replacement.5683/
08 - XRSound with No ATC.
https://www.orbiter-forum.com/resources/xrsound-with-no-atc.5684/

B) Installing the files for this tutorial

Copy the unzipped content of **Orbiter 2024 to a location of your choice.** (*)

(*) IMPORTANT:
This tutorial will use **C:/Orbiter-2024** as a reference.

01 - Copy the contents of **XR2Ravenstar-2.0-x86** to the root of **C:/Orbiter-2024**.
02 - Copy the contents of **LTMFD16** to the root of **C:/Orbiter-2024**.
03 - Copy the contents of **BurnTimeCalcMFD-v.3.2.0-2016** to the root of **C:/Orbiter-2024**.
04 - Copy the contents of **BaseSync 3.3** for Orbiter 2016 to the root of **C:/Orbiter-2024**.
05 - Copy the contents of **uap-0.3.1** to the root of **C:/Orbiter-2024**.
06 - Copy the contents of **PursuitMFD_171119** to the root of **C:/Orbiter-2024**.
07 - Copy the contents of **Moon Landing Pad** to the root of **C:/Orbiter-2024**.
08 - Copy the contents of **XRSound with No ATC** to the root of **C:/Orbiter-2024**.

C) Creation of a scenario for this tutorial

01 - Open your **C:/Orbiter-2024** folder, then the Scenarios folder and finally the **XR2 Ravenstar folder**.

02 - In the **XR2 Ravenstar folder**, take a copy of the following scenario:
"**1 - Ready for Takeoff to ISS.scn**".

03 - Rename this copy as "**Ready for Liftoff to the Moon.scn**".

04 - Open the file "**Ready for Liftoff to the Moon.scn**" using a text editor.

05 - Replace the **6th line** "**Date MJD 51984.6053168878**" with "**Date MJD 51918.06**".

06 - Save this file.

D) First window

01 - Open your **C:/Orbiter-2024** folder, then double-click on **Orbiter_ng.exe.**

Here's what you'll get.
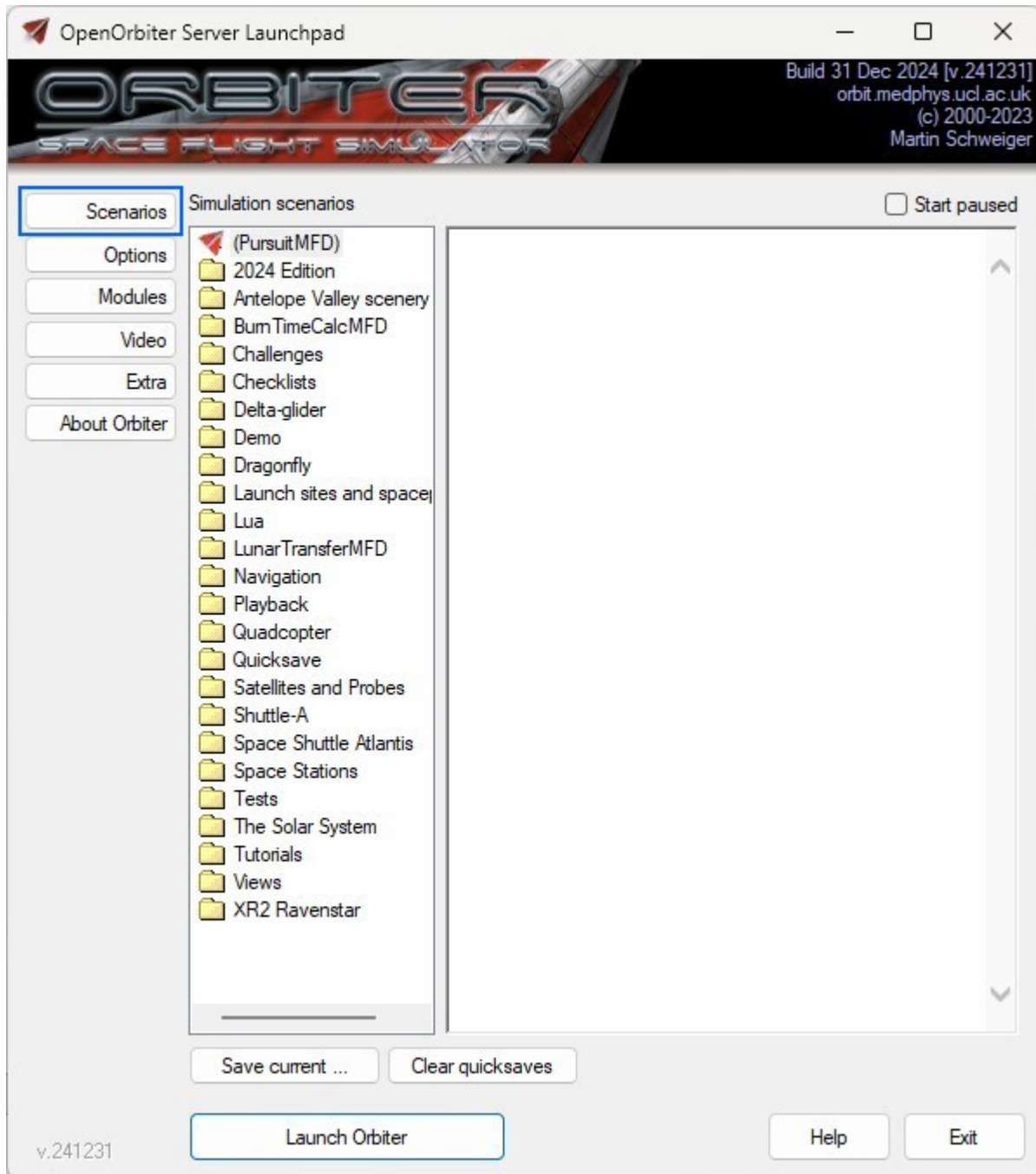
E) Instruments & panels tab (Options)

01 - Click the **Options** button (left), then choose **Instruments & panels.**
02 - Adjust the value like the ones below.
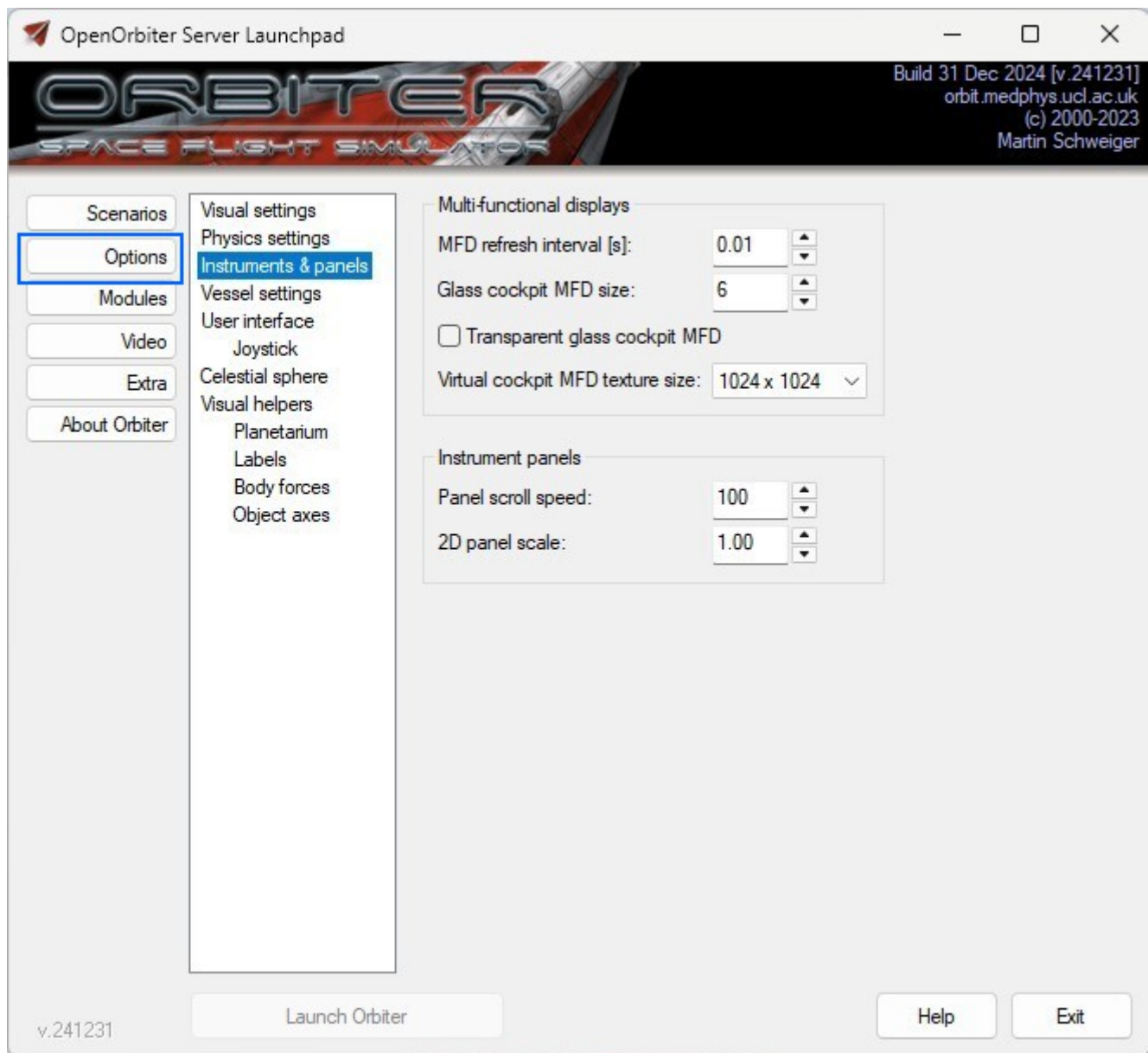
F) Joystick tab (Options)

01 - Still regarding the **Options** button (on the left), choose **Joystick**.
02 - In the drop-down list under **Joystick device** select your joystick.
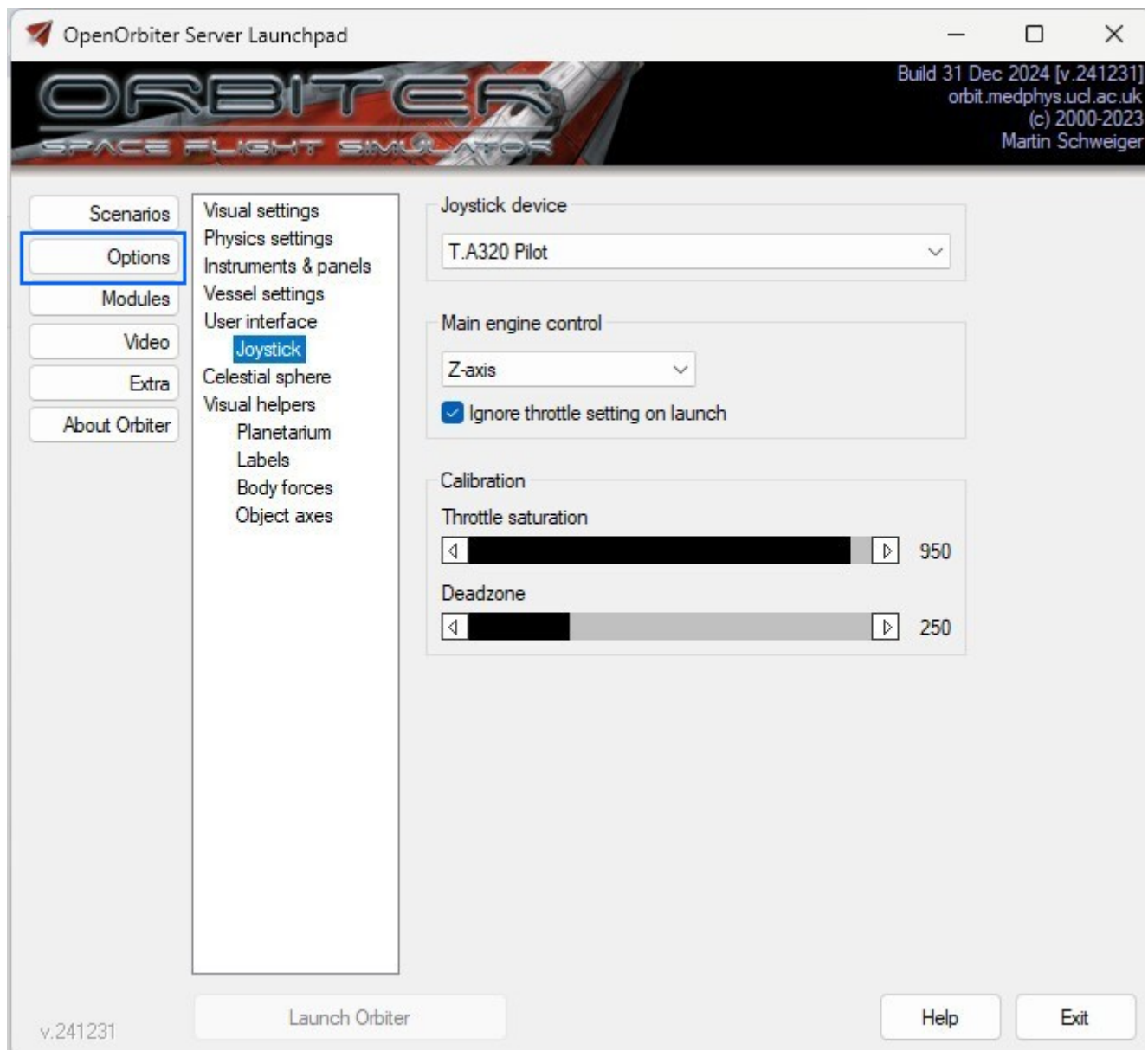
G) Video button

01 - Click on the **Video** button (left).
02 - Adjust the values like the ones below.
03 - Under **3D device**, choose your graphics card.
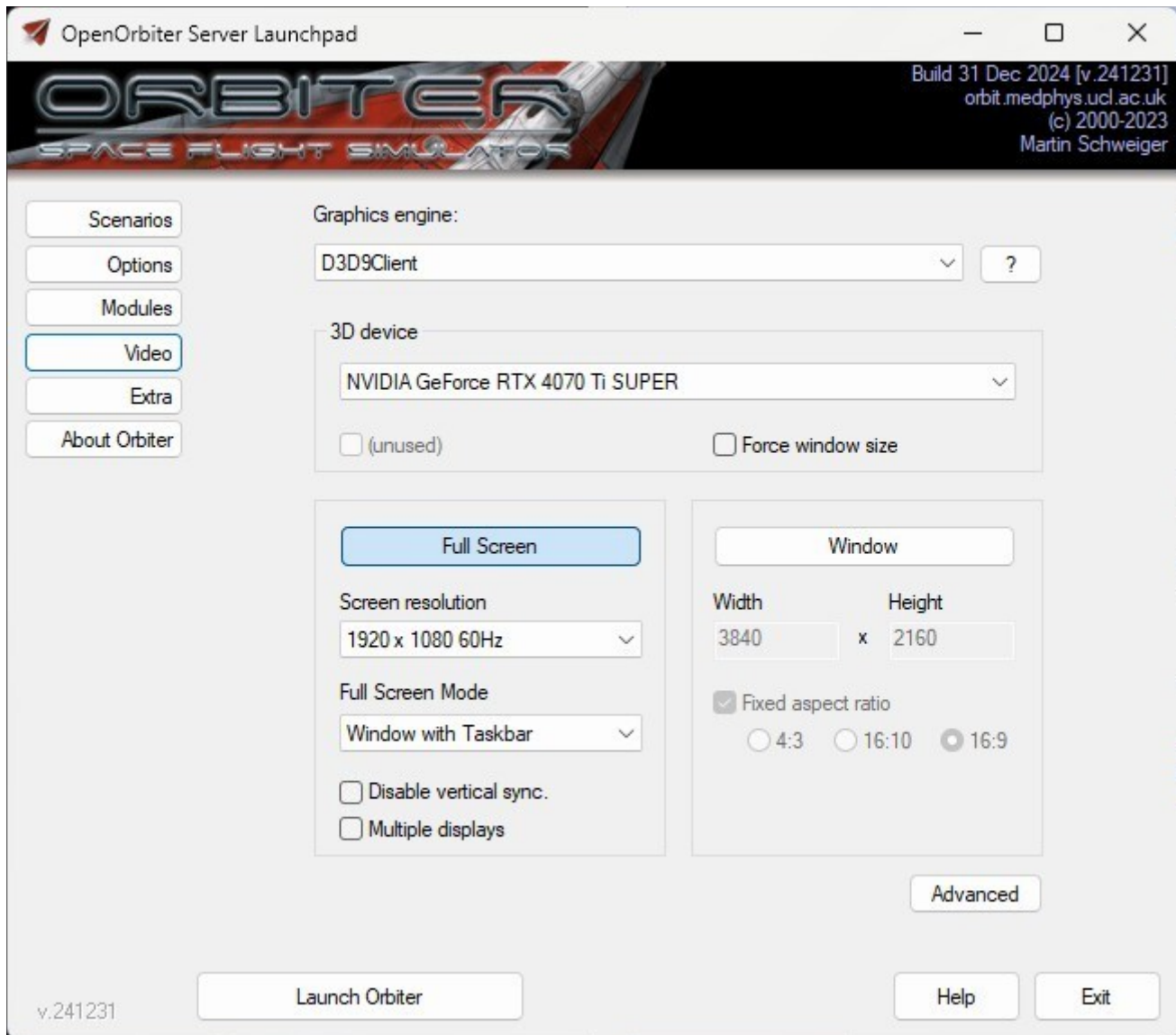
H) Modules button

01 - Click on the **Modules** button.
02 - Choose modules such as the following.
03 - **Click on the Exit button to close this window.**
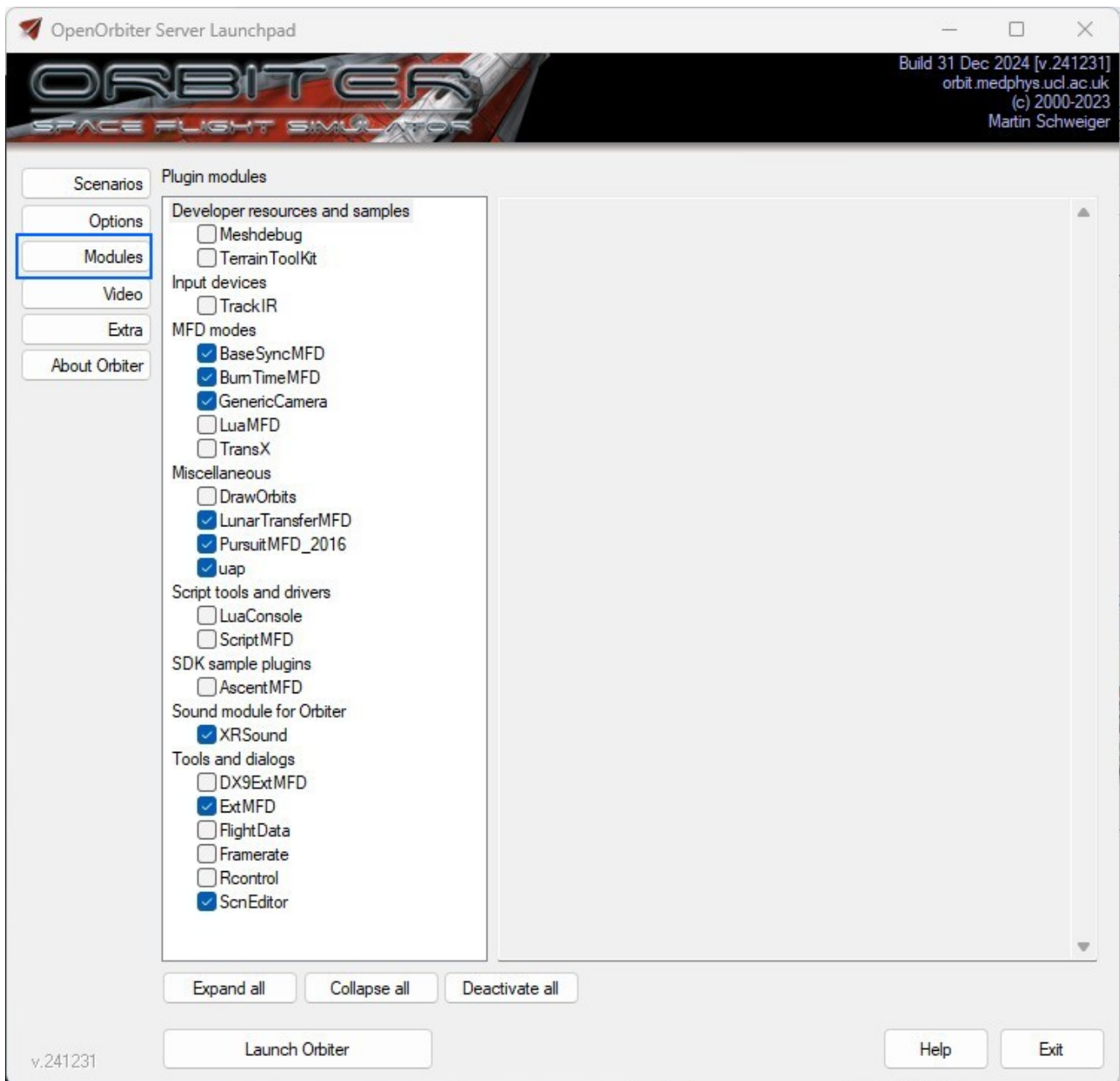
We are ready to start a new session with Orbiter 2024.

I) Start your scenario for this trip
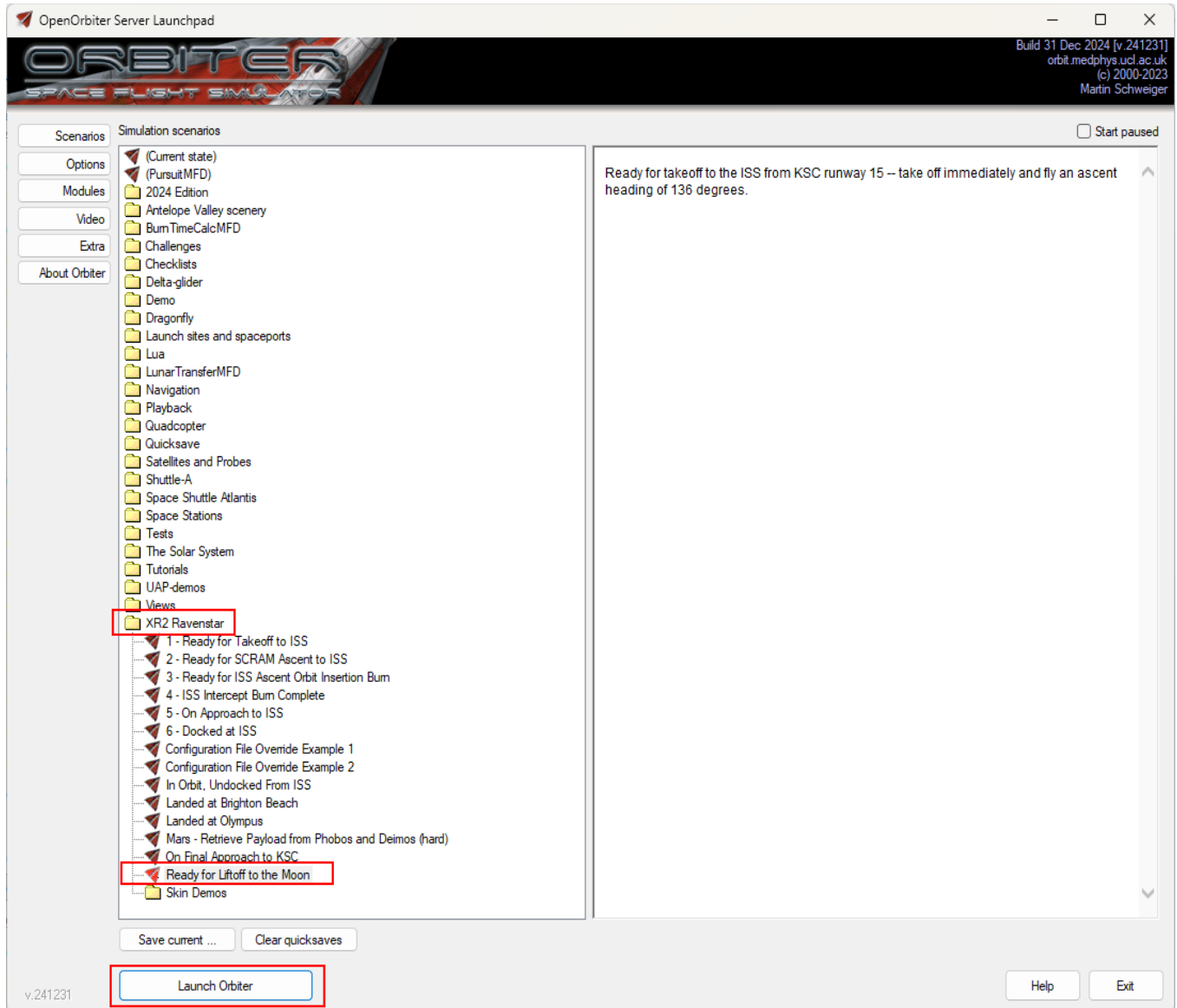
01 - Open your **C:/Orbiter-2024** folder then double-click on **Orbiter_ng.exe**.

02 - Double-click on "**Ready for Liftoff to the Moon.scn**" as you see in the following image. It's in the **XR2 Ravenstar folder**.

J) Menu bar
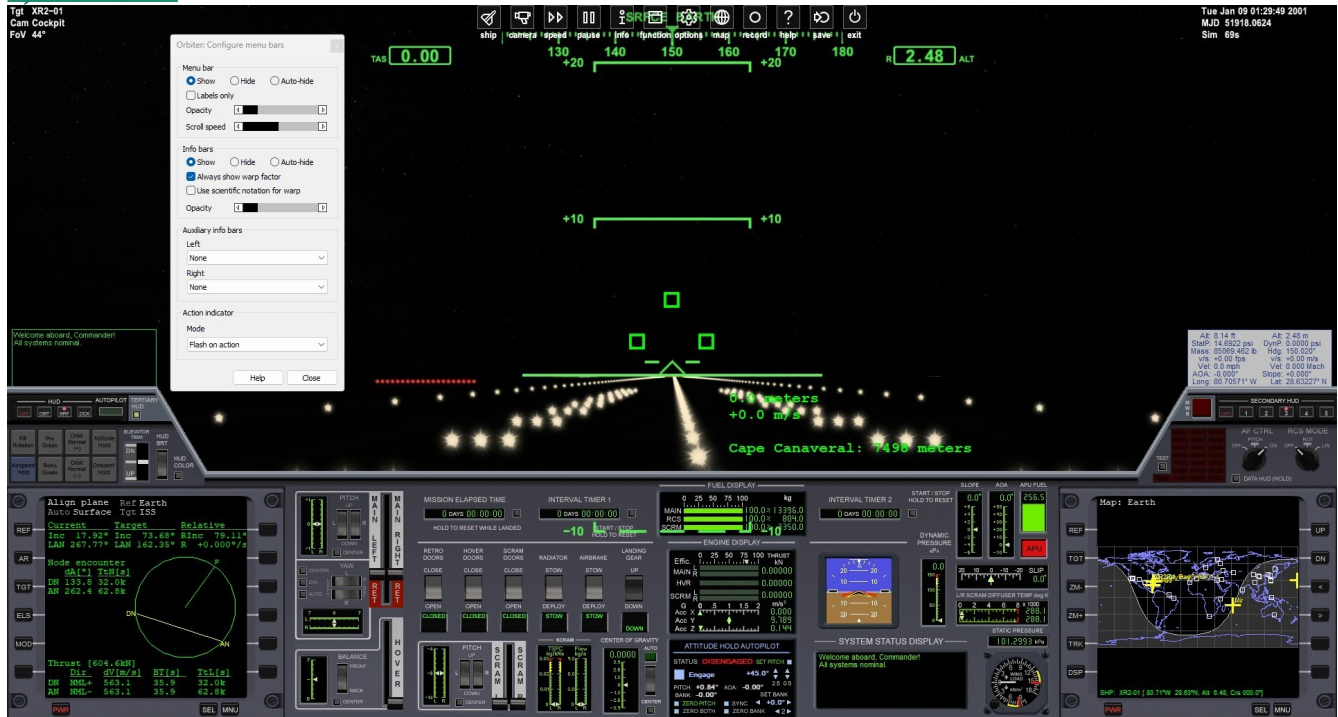
Click on the image to enlarge it

01 - Move your mouse to the center and top of the screen.
02 - A context menu appears.
03 - Right-click on this context menu.
04 - In the **Menu bar** option, choose **Show**.
05 - Press the **Close** button to close this window.

K) We will configure the Lunar Transfer MFD on the left

Click on the image to enlarge it

In the previous image we have 4 steps to configure the MFD on the left

Step 1

01 - Click on the **SEL** button, as many times as necessary, in order to see **LunarTransferMFD** in this menu.

02 - Click on the button to the **left** of the word **LunarTransferMFD** to select it.

Step 2

01 - Click on the **PRG** button on the left to see the list of programs.

Step 3

01 - Click on the **NXT** button to select **Program TLI.**

02 - Click the **[+]** button to enter parameters for **Program TLI**.

Step 4

01 - You are already on the **Mod** field.

02 - Click on the [+] button to choose **Mod Surface**.

03 - Click on the **NXT** button to select the **Tgt** field.

04 - Click on the **[+]** button to choose **Tgt Brighton Be..**

11

L) We will configure the ATTITUDE HOLD AUTOPILOT in the center

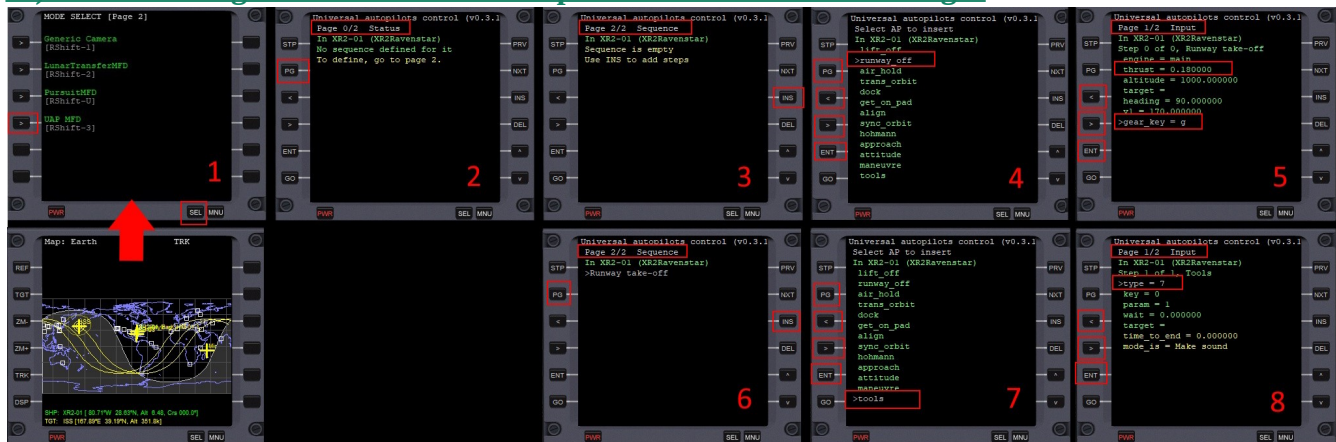*Click on the image to enlarge it*

01 - Click on **2 key** on your keyboard (**not the numeric keypad**) to see **ATTITUDE HOLD AUTOPILOT**.

02 - Adjust the **PITCH** value using the **small blue triangle as shown**, to obtain **+45.0**.

M) We will configure the Universal Autopilots control MFD on the right

Click on the image to enlarge it

In the previous image we have 8 steps to configure the MFD on the right

On the right in the XR2 Ravenstar screen we have the **MAP MFD** (represents earth).

We will replace it with **Universal Autopilots control MFD**

Step 1
01 - Click on the **SEL** button, as many times as necessary, in order to see **UAP MFD** in this menu.
02 - Click on the button to the **left** of the word **UAP MFD** to select this MFD.

Step 2
01 - Display the **Sequence** page with the **PG** button.

Step 3
01 - Press the **INS** key to add a new sequence.

Step 4
01 - Use the [>] button to highlight **runway_off.**
02 - Press the **ENT** key to accept this new sequence.
03 - Display the **Input** page with the **PG** button.

Step 5
01 - Use the [>] button to highlight the **thrust** field.
02 - Press the **ENT** key to bring up an input window.
03 - Type the value '**0.18**' and press the **ENTER key on your keyboard**.
04 - Use the [>] button to highlight gear_key.
05 - Press the **ENT** key to bring up an input window.
06 - Type the value **'g'** and press the **ENTER key on your keyboard**.

Click on the image to enlarge it

Step 6

01 - Display the **Sequence** page with the **PG** button.
02 - Press the **INS** key to add a new sequence.

Step 7

01 - Use the [>] button to highlight **tools**.
02 - Press the **ENT** key to accept this new sequence.
03 - Display the **Input** page with the **PG** button.

Step 8

01 - Use the [>] button to highlight the **type** field.
02 - Press the **ENT** key to bring up an input window.
03 - Type the value **'7'** and press the **ENTER key on your keyboard**.

N) Saving the scenario for this trip

01 - In the context menu, at the very top of the screen, click **exit**.
02 - You will see the Orbiter 2024 **Simulation scenarios menu**.

N.B: The "**(Current state)**" scenario is the scenario that you have just created.

03 - Click on the **Save current…** button (at the bottom of the screen) to save your scenario.
04 - In the **Scenario name** field enter "**XR2 is going into Earth orbit**".
05 - Click the **OK** button to accept this name.

06 - Click at the bottom and right of the screen, on the Exit button to leave Orbiter 2024.