

Airbus X Extended FADEC and RUDDER control using the Keyboard

If you want to use the keyboard to control the FADEC instead of a Joystick controller (maybe you're a Gamepad user like myself), or want to map a Joystick or Gamepad button to control throttle or rudder, the only reliable way is to use it through FSUIPC. I have created two small scripts in Lua, which should help you achieve this.

How does the Keyboard Throttle control work?

The script detects when both your engines (the FADEC in this case) are "idle", and lets you move the throttle control several notches forward, in order to give you control when taxiing or when needed in other stages of flight.

When getting close to the CLB setting, the script will clamp the mode automatically, doing so for the next modes, FLX/MCT and TOGA, with just a single key press of whatever key you selected during the configuration process (see below) for moving forward the throttle control.

The same applies when moving back the throttle control. Pressing the key you selected during the configuration in FSUIPC (again, see below) for moving back the throttle controls, it will move from TOGA to MCT, then to CLB and then back several notches until finally back in idle. If you want to reverse the engines, your throttle controls must be in idle position, and then pressing the key again will give you a few notches of reverse thrust until intercepting full reverse thrust. Pressing the key to move the throttle control forward will disengage reverse thrust and set both engines/FADEC to idle.

You can also configure a key for setting TOGA, and another one for moving directly to idle.

In the configuration example below, I chose to remap the F1, F2, F3 and F4 keys for the specific Airbus X Extended aircraft I'm using. You can do that by clicking/checking the "Profile specific?" checkbox in the FSUIPC "Key Presses" configuration window, as shown in the screenshots below.

I will select F1 for FADEC idle mode, F2 for moving the throttle control "back", F3 for moving the throttle control "forward", and F4 for TOGA.

The "Parameters" that the script is expecting from FSUIPC for FADEC control are as follows:

Set idle: FSUIPC Parameter to pass = 1

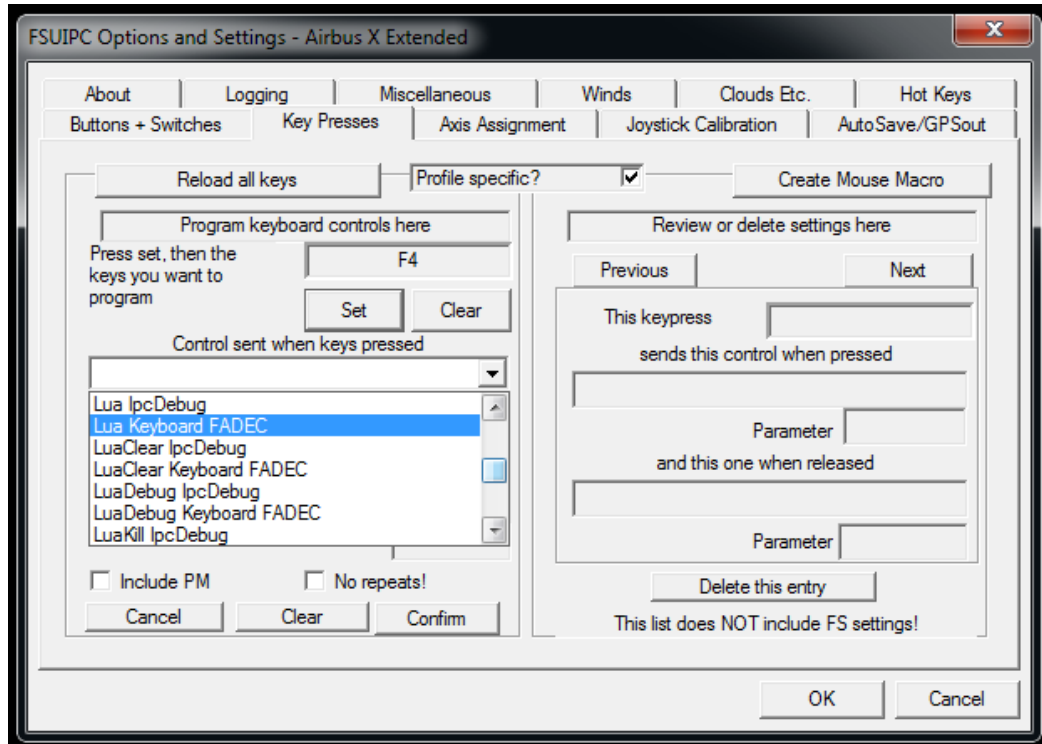
Move throttle back: FSUIPC Parameter to pass = 2

Move throttle forward: FSUIPC Parameter to pass = 3

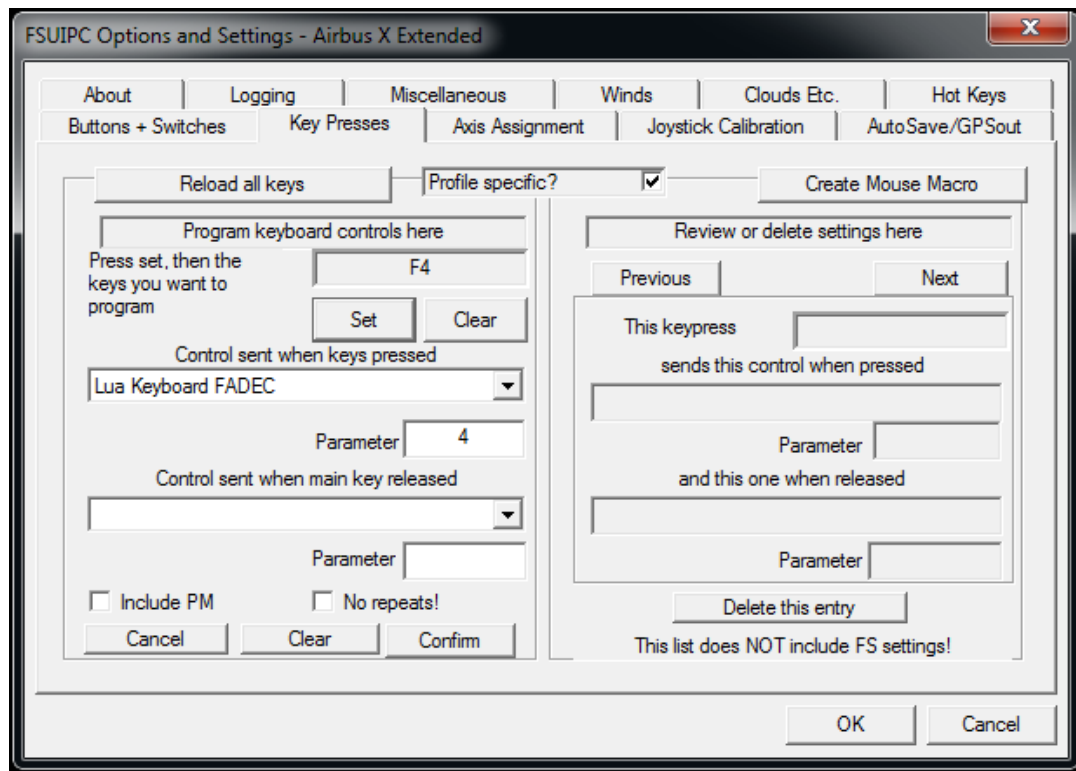
Set TOGA: FSUIPC Parameter to pass = 4

How to install the Keyboard Throttle control script?

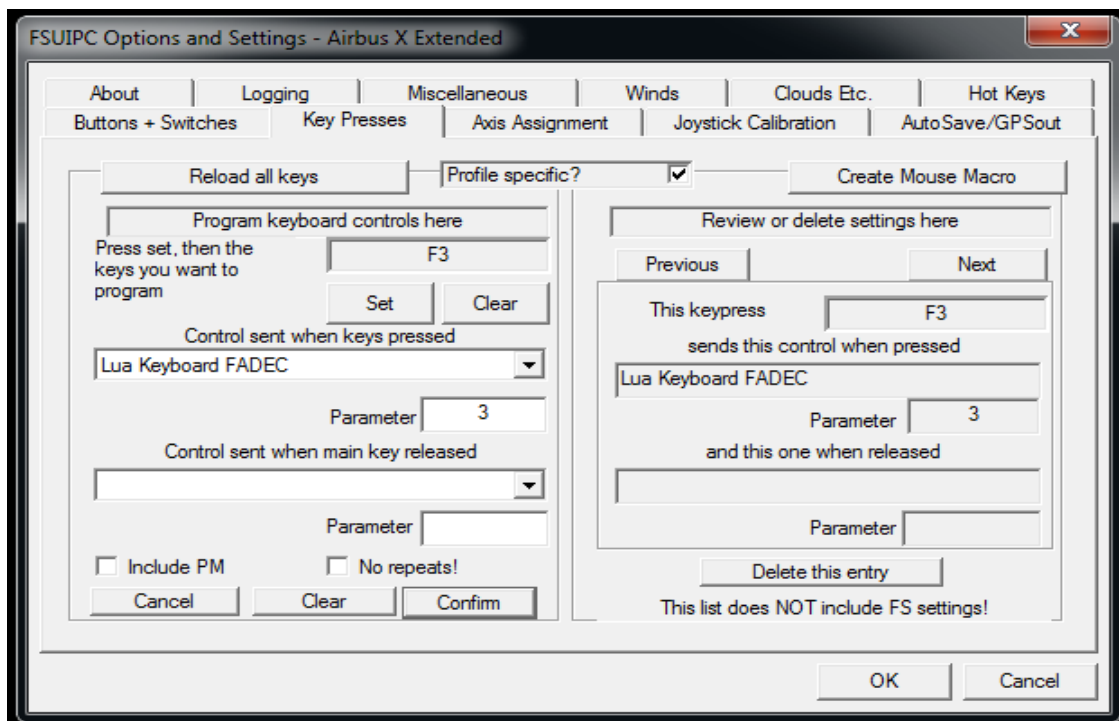
- 1) You must place the file *Keyboard_FADEC.lua* in the Modules folder inside your base FSX installation (that is where the FSUIPC module resides, by the way). For example: C:\FSX\Modules
- 2) Launch Flight Simulator X and go to your FSUIPC menu. We will enable the script there
- 3) Go to the “Key Presses” Menu and click the “Set” button. Then type the key you would like to use for the four parameters that my script supports, as I explained above. In this case, I am configuring the F4 key.
- 4) Move to the “pull down menu” (just below “Control sent when keys pressed”) and find “Lua Keyboard FADEC”. Click on it so to make sure it is selected.

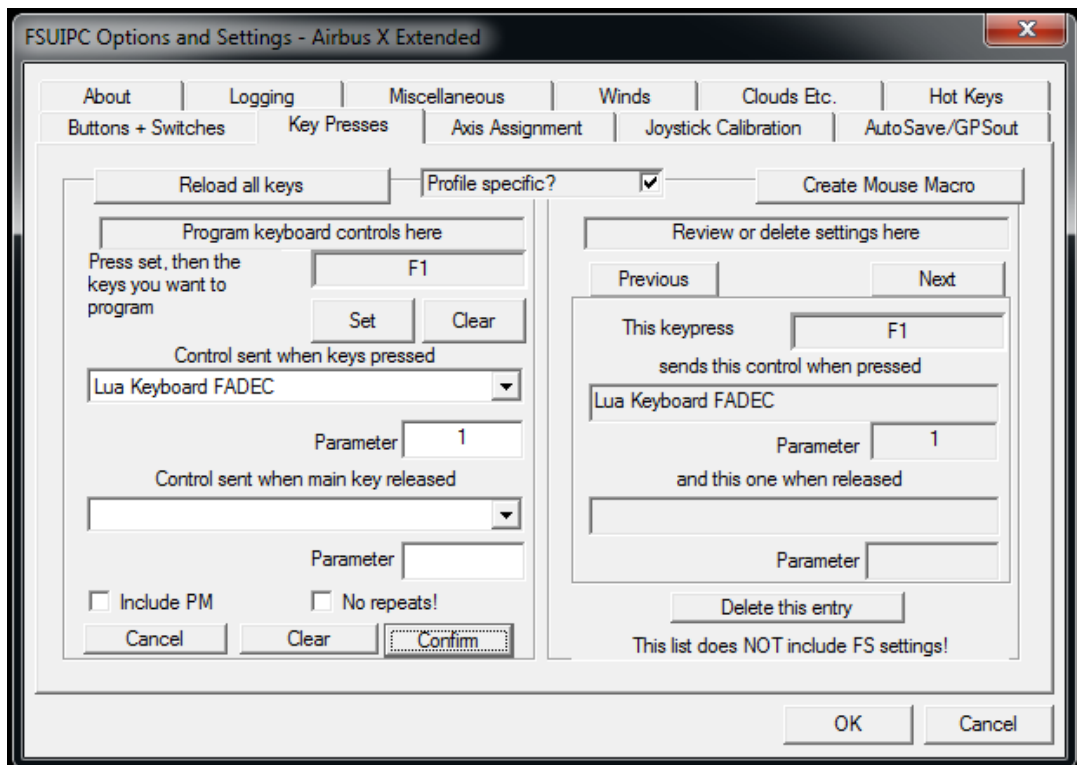
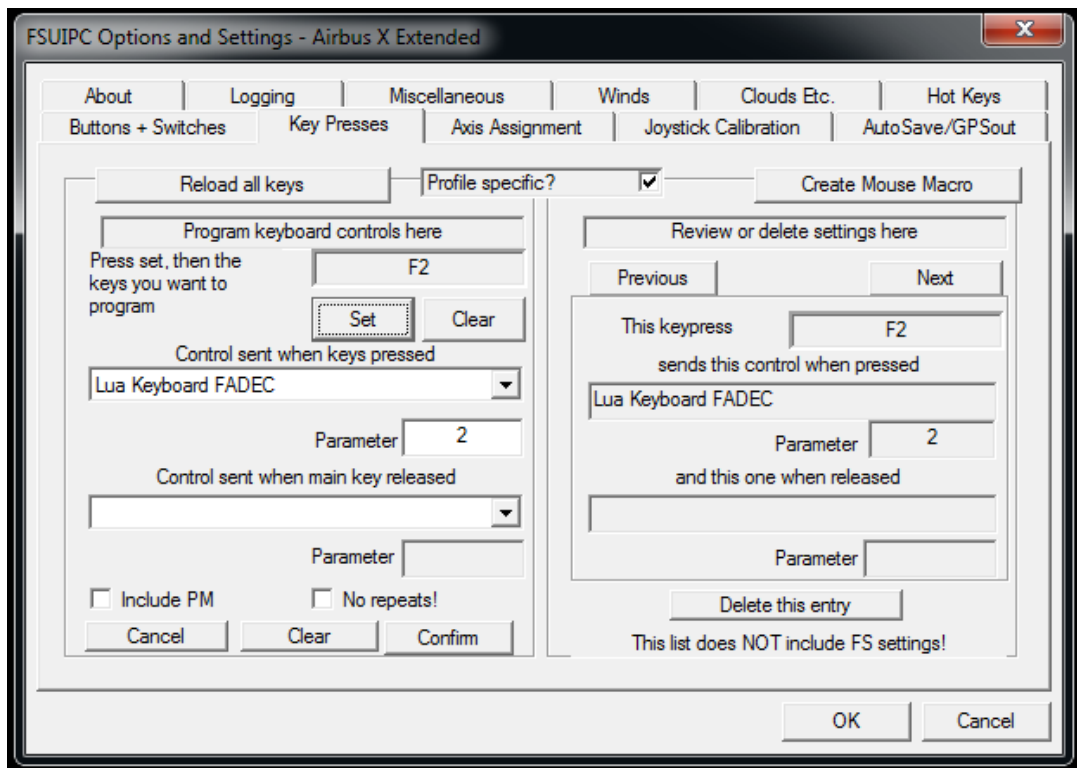


- 5) Type the number “4” inside the “Parameter” field, just below the “pull down menu”. After doing so, click on the “confirm” button to save your changes



- 6) Then proceed to configure the remaining 3 keys, just like the screenshots below:





- 7) After you are done with the 4 different keys, just click "Ok" to exit FSUIPC configuration and you should be able to use your Airbus FADEC with the keys you just mapped!

How does the Keyboard Rudder control work?

The script contains 3 different parameters, one for commanding rudder left, one for commanding rudder right, and a command for centering the rudder.

As with the FADEC version of the script, you can program any unused key to each of these 3 commands, including free Gamepad or Joystick buttons (they must not be mapped in both FSX and FSUIPC).

In the configuration example below, I chose to remap the Keypad "0" for Rudder Left, the Keypad "Enter" for Rudder Right and the Keypad "." (del) for Centering the Rudder in the specific Airbus X Extended aircraft I'm using. You can do that by clicking/checking the "Profile specific?" checkbox in the FSUIPC "Key Presses" configuration window, as shown in the screenshots below.

The "Parameters" that the script is expecting from FSUIPC for Rudder control are as follows:

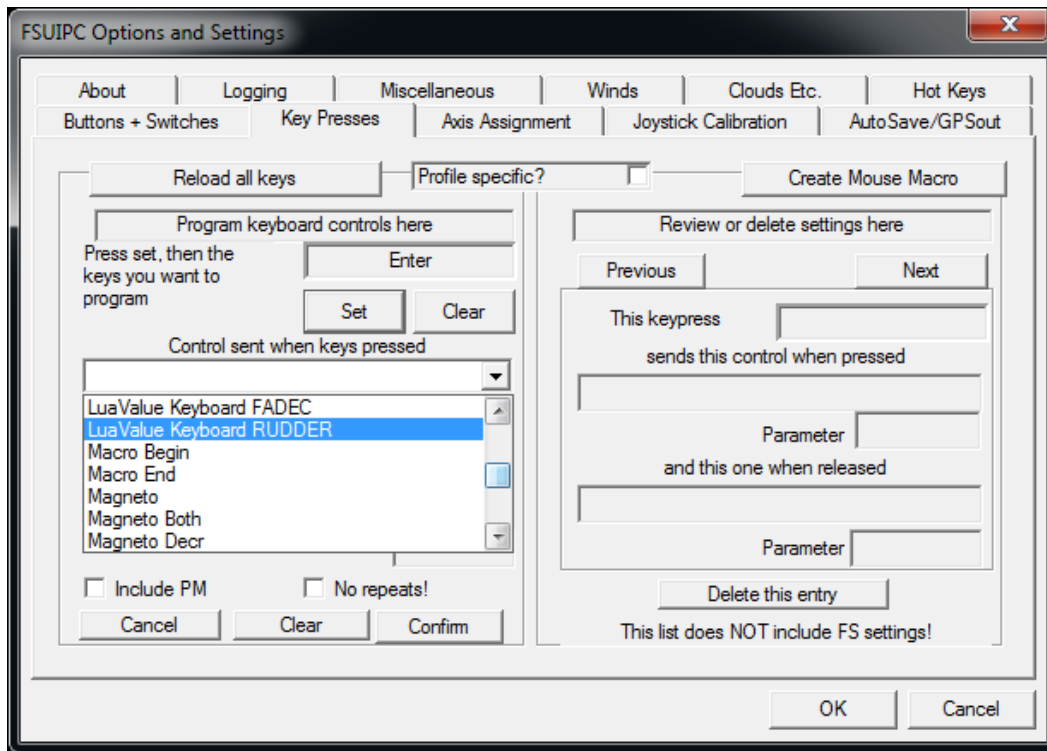
Rudder Center: FSUIPC Parameter to pass = 1

Move Rudder Left: FSUIPC Parameter to pass = 2

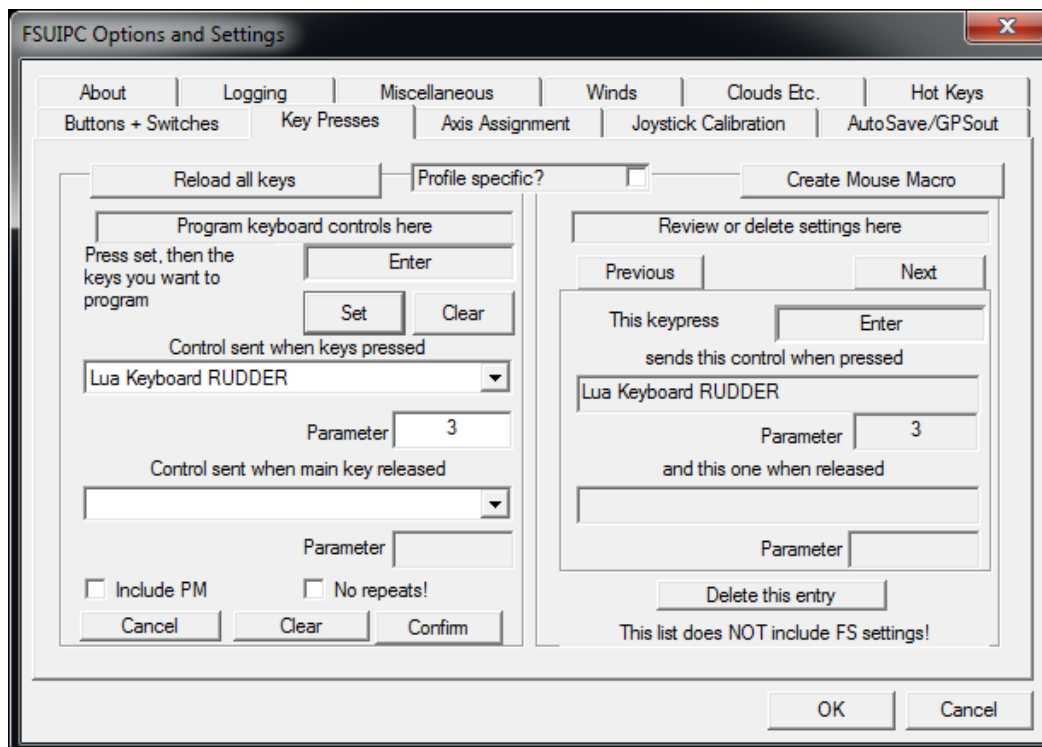
Move Rudder Right: FSUIPC Parameter to pass = 3

How to install the Keyboard Throttle control script?

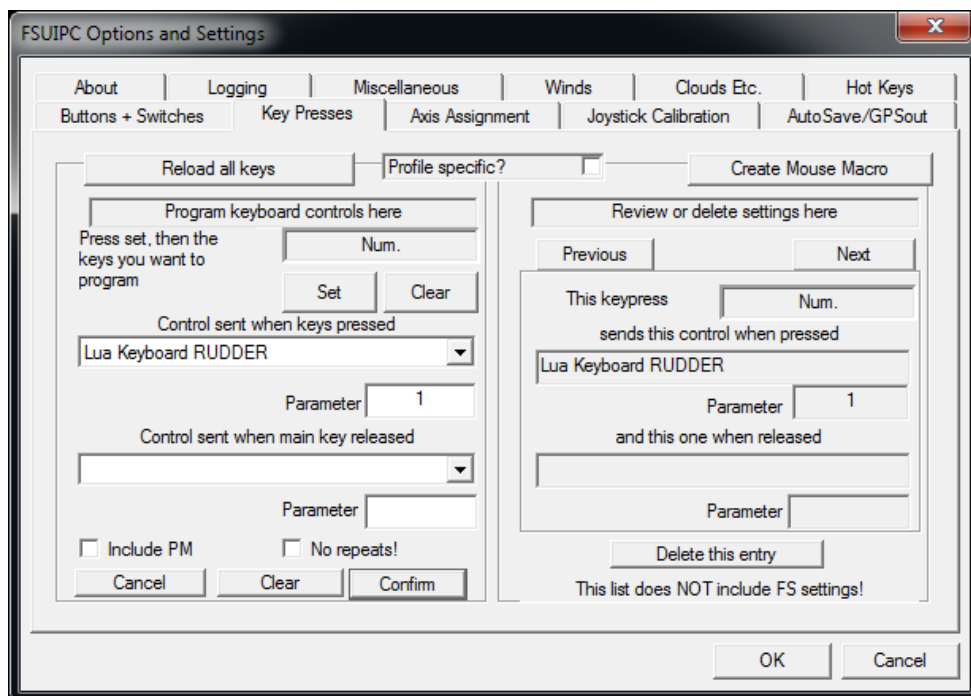
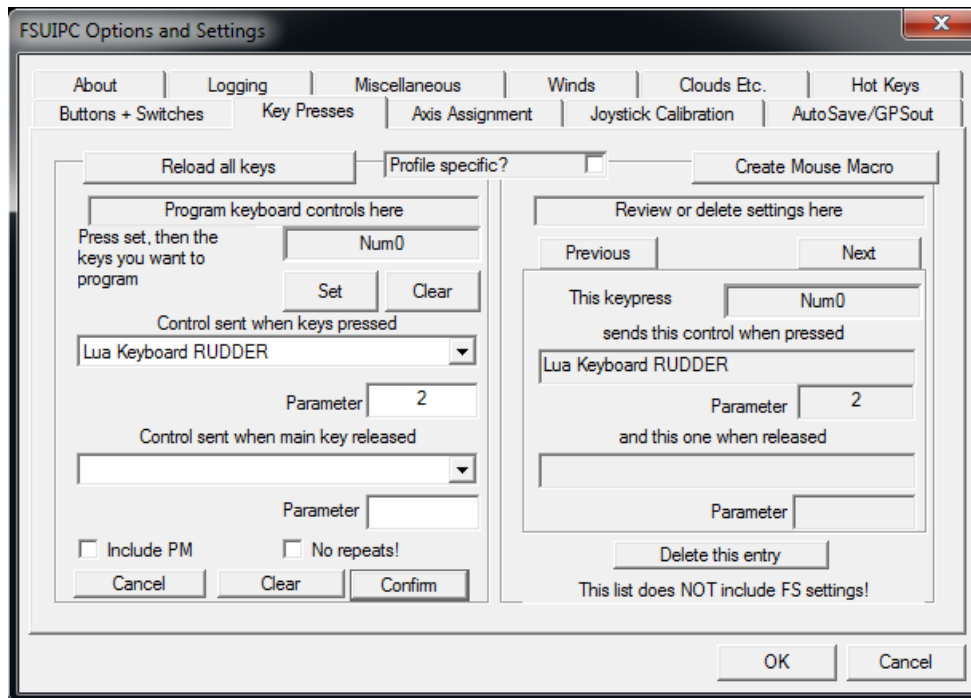
- 1) You must place the file *Keyboard_RUDDER.lua* in the Modules folder inside your base FSX installation (that is where the FSUIPC module resides, by the way). For example: C:\FSX\Modules
- 2) Launch Flight Simulator X and go to your FSUIPC menu. We will enable the script there
- 3) Go to the "Key Presses" Menu and click the "Set" button. Then type the key you would like to use for the three parameters that my script supports, as I explained above. In this case, I am configuring the Keypad "Enter" key for Right Rudder control
- 4) Move to the "pull down menu" (just below "Control sent when keys pressed") and find "Lua Keyboard RUDDER". Click on it so to make sure it is selected.



- 5) Type the number “3” inside the “Parameter” field, just below the “pull down menu”. After doing so, click on the “confirm” button to save your changes



6) Then proceed to configure the remaining 3 keys, just like the screenshots below:

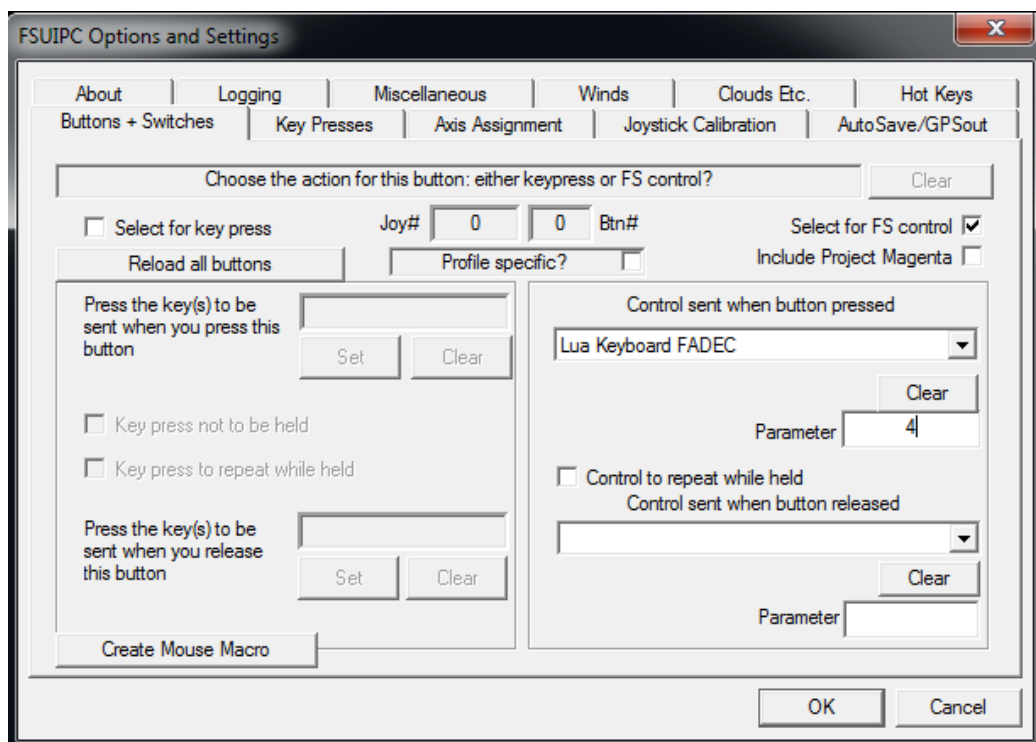


7) After you are done with the 3 different keys, just click “OK” to exit FSUIPC configuration and you should be able to use your Airbus Rudder with the keys you just mapped!

Gamepad/Joystick button configuration:

If you decide to map Joystick or Gamepad buttons, the process is very similar, only that you should use the "Buttons+Switches" configuration menu in FSUIPC, instead of the "Key presses" menu we used above. A quick example for the FADEC script would be:

- 1) Click the Joystick/Gamepad button you want to configure for F1, F2, F3 or F4 and then check the checkbox "Select for FS control".
- 2) In the Pull down Menu "Control sent when button pressed", select "Lua Keyboard FADEC"
- 3) In the parameter box, enter 4 to simulate the F4 (which is the example in the screenshot below)
- 4) Repeat this step for 2 for the F2, 3 for the F3 and 1 for the F1.



The parameters you must pass from FSUIPC to both scripts are as follow:

FADEC:

Set idle: FSUIPC Parameter to pass = 1
Move throttle back: FSUIPC Parameter to pass = 2
Move throttle forward: FSUIPC Parameter to pass = 3
Set TOGA: FSUIPC Parameter to pass = 4

Rudder:

Rudder Center: FSUIPC Parameter to pass = 1
Move Rudder Left: FSUIPC Parameter to pass = 2
Move Rudder Right: FSUIPC Parameter to pass = 3

If for any reason you happen to hit trouble, let me know using either Avsim/Aerosoft forums or via e-mail. Needless to say, your feedback is welcome.

Changelog:

FADEC Version 04:

The first version was very aggressive in the way reverse thrust was set. This version corrects it.

To do:

Asymmetric control: I plan to make this script work with both engines individually. At the moment, it will control both throttle controls.

Thanks to:

Pete Dowson and Guenter Steiner

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