

# FLIGHT SIMULATOR INNOVATIVE ADDONS

## FSFO NEXT



Flight Simulator First Officer (FSFO) Next

for

**Microsoft Flight Simulator (MSFS)**

August 2022 – Matthew King

Version 1.3



# Introduction



Flight Simulator First Officer is a realistic and very flexible; yet, easy-to-use virtual First Officer. It's designed specifically for virtual pilots who value realism, but may not have the time to execute comprehensive preflight and/or post flight procedures. Despite its sophistication, it's also coded with novice pilots in-mind; FSFO will configure every switch according to the manufacture recommendations. With FSFO, you only need to program the FMC/CDU, and even some of that can be handled by your first officer. **FSFO can be as complex or simple as you want; for example, FSFO can complete the entire Pre-Flight procedure, or only those functions you chose not to accomplish.** Regardless, he will check every switch to ensure it's placed in the correct position; using this methodology, you can fly complicated third-party aircraft without reading 200+ manuals. Just hit connect and fly with confidence that your First Officer is helping you fly these complicated aircraft. FSFO sets itself apart from the competition by not requiring strict adherence to scripts, reading lengthy manuals, building complex checklists, or using precise speech. Moreover, it uses real vice robotic voices.

Click to link below to see when your favorite plane is available

[3rd Party aircraft will be supported](#)



## Features

- **Speech Recognition**
  - Command the First Office to set the flaps, gear, autopilot, takeoff thrust, and execute the flows and checklists. See the Voice Command section for a full list of commands
  - Checklist can be controlled via voice or completely automated
  - Control Push Back via Voice commands
  
- **Flight Deck Announcements**
  - Welcome Aboard (message depends on time of day)
  - Safety Message
  - Flight Attendants “Prepare for Takeoff”
  - 10,000 ft chime
  - We’ve reached our cruise altitude (message depends on turbulence)
  - Descent Announcements (e.g., electronics off and night time landing messages)
  - Flight Attendants “Prepare for Landing”
  - Welcome to our destination (message depends on time of day)
  
- **Integrated Flows and Checklists**
  - Flows - When activated, the copilot will check each system to ensure its set correctly for a specific flight phase; if it's not set correctly, he will configure said system. Using this system, FSFO will completely configure the aircraft for you, which will spare you the need to read 300+ page manuals.
  - Checklist - When called, the copilot will call the checklist item
    - If using button mode - if the systems is set correctly, he will proceed to the next item; if it's not, he will wait for the pilot to configure the system before proceeding to the next call.
    - If using Voice mode – The Copilot will wait for a verbal response (e.g., checked, set, on, off, etc....)
  
- **Speed Calls:**
  - Copilot call Power Set
  - Copilot calls Speed Alive
  - Copilot calls 80 (or 100) Knots on takeoff and 100, 80 and 60 Knots on landing
  - Copilot calls V1, Rotate, and V2
  - Copilot calls “400 ft” and “Acceleration Altitude”
  - Vref monitoring (i.e., copilot will advise the captain when the airspeed falls below the imputed value on landing)
  
- **Engine Callouts**
  - Calls “Engine x Started”
  - Calls “Engine x Cutout
  - Calls “All Engines Stable”



- **Safety Checks:**
  - Before Takeoff - Copilot checks the flaps, trims and autobrakes; if they're incorrect, he will warn you
  - After Takeoff - Copilot checks the landing gear and flaps; if they're incorrect, he will warn you
  - Before Landing - Copilot checks the landing gear, flaps and spoilers; if they're incorrect, he will warn you
  - Doors – Copilot will warn you anytime the engines are running and the main door is opened
  
- **Ground Crew Operations:**
  - Control pushback via Voice or Buttons
  - Automatically trigger the fuel truck, luggage cars and jetway, or request via operations panel
  
- **Copilot Options:**
  - **Prgm FMS – Copilot will program 90% of the FMS/CDU;** all the pilot needs to do is set the runways, SIDS and STARS (must plan and/or download your flight plan into the aircrafts flight plan folder)
  - **Manages Autopilot** - Copilot can turn on/off Vnav, Lnav, A/T, and Master Autopilot
  - **Manages Gear** – Copilot can raise/lower the gear at the designated altitudes
  - **Manages Flaps** – Copilot will raise/lower the flaps at the designated speeds
  - **Manages Altimeters** - Copilot can set altimeters based on flight parameters
  - **Speed Warns** - Copilot warns with IAS goes above 250 knots below 10K ft AGL, when Ground Speed is too high (30 mph), or when the IAS falls below VREF during landing
  - **Manages Lights** - Copilot can turn on/off ALL interior and exterior lights at the appropriate altitudes and time of day
  - **Systems monitoring** - Copilot can also callout flap changes, parking brake, landing and spoiler status. For example, if you retract the flaps from 10 to 5, the copilot will call “Flaps 5.” If the landing gear is extended, the Copilot calls “landing gear down”
  - **Manages Center Tanks** - Copilot will turn on/off the center fuel pumps when the fuel level falls above/below 1,000 lbs.
  - **Manages Copilot EFIS controls** – Copilot will set his controls based on flight parameters (e.g., App Mode when capturing the ILS and terrain map on takeoff/landing)
  - **Manages FMC** – Copilot will set his FMC based on flight parameters (e.g., LEGS page on Takeoff, PROG page in Cruise, sets VREF on descent and aligns IRS during the Preflight Flow)
  - **Manages MCP** – Copilot will set IAS, HDG, LNAV, VNAV, A/T, HDG SEL and FDs.
    - \* Some settings are not possible to set on certain aircraft due to SDK limitations.
  
- **Change Accents:**
  - Choose between English, French and German, Australian, Espanol, etc...



# Installation

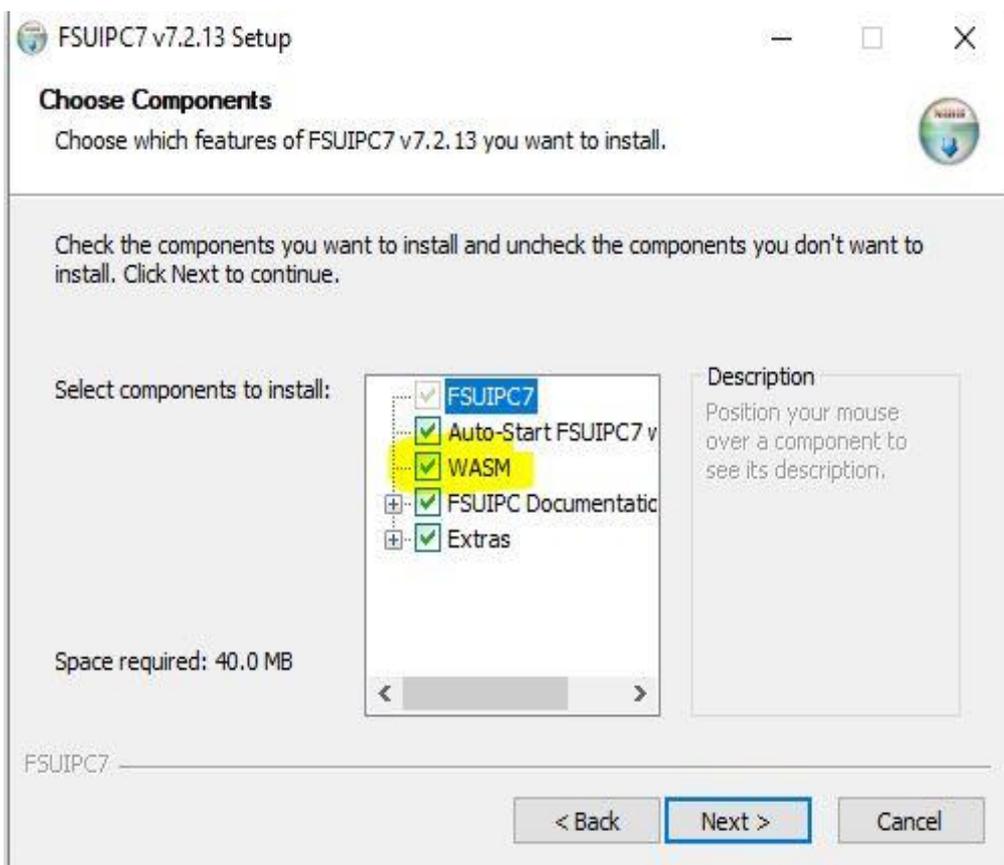
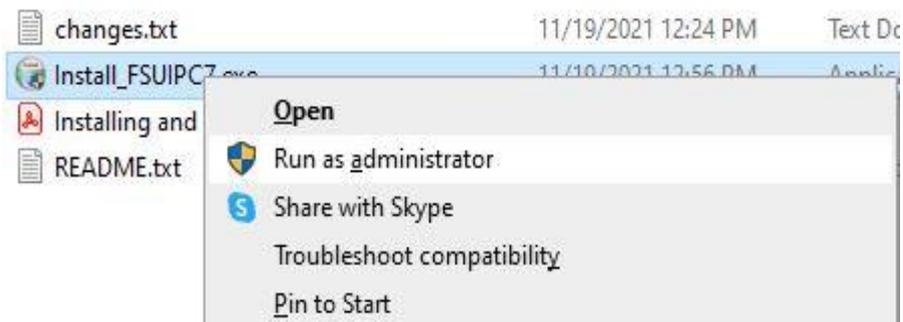
## Requirements:

**Windows 10 or 11**

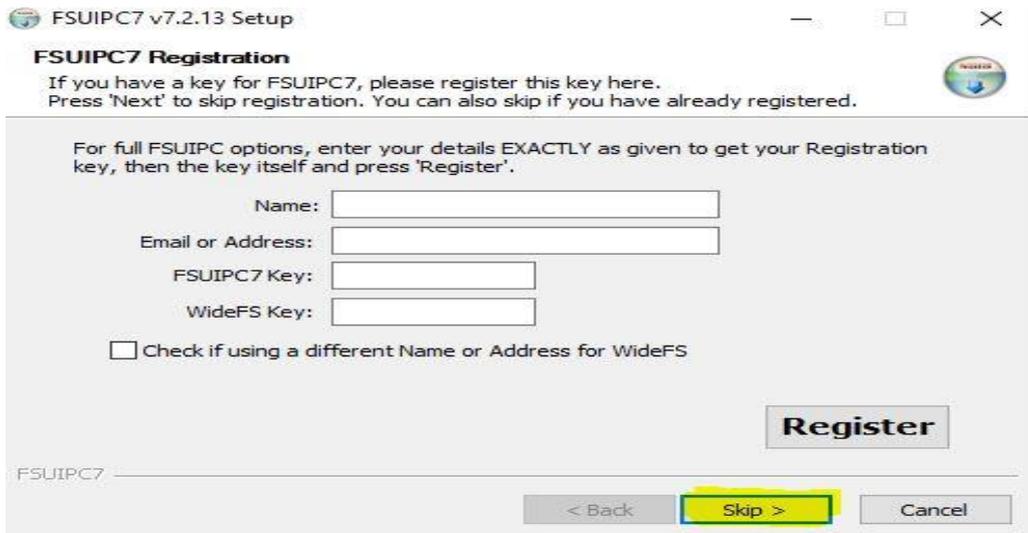
**Peter & John Dowson's FSUIPC V7 (MSFS)** (registered or unregistered (free): [CLICK HERE](#))

*This file is completely harmless and is required for FSFO to read your flight simulators internal values. If you are an avid flight simulator user, chances are you already have this program installed. If you need ANY help with installation, please contact me!*

### 1. Install FSUIPC7:



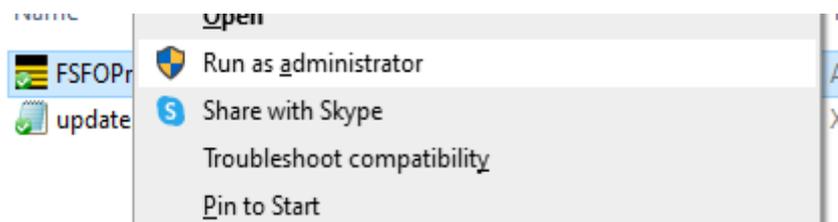
**Ensure you install the WASM package and its enabled!!**



If you don't own a registry key, just click Skip

### Edit your FSUIPC\_WASM.ini file

1. Locate you MSFS Community Folder.
  2. Locate **fsuipc-lvar-module** folder
  3. Click on FSUIPC\_WASM.ini file (open with notebook if prompted).
  4. Add this line to the end of the file: **LvarScanDelay=60**
  5. Save the file.
2. **Install FSFO: Right Click on FSFO.exe** and select “Run as Administrator.” Follow the onscreen instruction!



### 3. Important Notes:

- a. FBW A320 – Only the Developmental and Stable versions are supported!
- b. As a result of how MSFS handles Local Variable (LVARs), it's recommended you keep JUST your current aircraft (i.e. the one you're flying), in your community folder. If you switch aircraft without restarting MSFS, you'll note FSFO won't function probably. I strongly recommend keeping your 3<sup>rd</sup> party aircraft outside your community folder and link them with the extremely popular MSFS Addon linker:
  - i. <https://flightsim.to/file/1572/msfs-addons-linker>
  - ii. [https://www.youtube.com/watch?v=O68u05JZXL8&ab\\_channel=badGamr](https://www.youtube.com/watch?v=O68u05JZXL8&ab_channel=badGamr)
- c. **I recommend you install FSUIPC directly in your community folder**



# Voice Commands

Voice Commands must be spoken exactly as they appear in the Command Column

AUTOPILOT	
Autopilot On	
Autopilot Off	
Command A	Alternative Verbiage for engaging the master Autopilot
Command B	Only modeled for PMDG 737
Takeoff Power	CRJ 700/FENIX A320 – Moves Throttle to the FLEX Detent; all others engages TO/GA
Climb Power	CRJ 700/FENIX A320 – Moves Throttle to the CLB Detent
Lateral Navigation	Sets LNAV for aircraft with that function; sets NAV for default turboprop
L-Nav	Sets LNAV for aircraft with that function; sets NAV for default turboprop
Vertical Navigation	Sets VNAV for aircraft with that function; sets VS mode for default turboprop
V-Nav	Sets VNAV for aircraft with that function; sets VS mode for default turboprop
Flight Level Change Mode	
Approach Mode	
Heading Select	Airbuses only (e.g., FBW A320, Fenix A320, HeadWind A330)
Managed Mode	Airbuses only (e.g., FBW A320, Fenix A320, HeadWind A330)
Open Climb	Airbuses only (e.g., FBW A320, Fenix A320, HeadWind A330)
Open Descent	Airbuses only (e.g., FBW A320, Fenix A320, HeadWind A330)
Managed Climb	Airbuses only (e.g., FBW A320, Fenix A320, HeadWind A330)
Managed Descent	Airbuses only (e.g., FBW A320, Fenix A320, HeadWind A330)
Cancel	Cancels the command
Set Vertical Speed	Must be proceeded with 3 or 4 numbers (e.g., "Set Vertical Speed (pause) 1500"); there's no need to say plus or minus; the copilot will figure it out based on the MCP and Aircraft current altitude
Set Speed	Must be proceeded with 3 numbers (e.g., "Set Speed (pause) 210") *
Set Heading	Must be proceeded with 3 numbers (e.g., "Set Heading (pause) 082") *
Set Altitude	Must be proceeded with 4 numbers (e.g., "Set Altitude (pause) 8000") *
Set Flight Level	Must be proceeded with 3 numbers (e.g., "Set Flight Level (pause) 190", which equals 19000)
*	NA for PMDG and FENIX Aircraft AT THIS TIME.
RADIOS & BARO	
Unicom	Sets the radio to Vatsim UNICOM 122.80
Set Standard Pressure	Sets altimeters to standard 29.92 pressure
Set Comm One	Must be proceeded by 2 numbers (pause) 2 more numbers (e.g. 35 pause 75) = 135.75
Set Altimeters	Sets altimeters to the current outside standard pressure
SYSTEMS	
Anti-Ice On	
Anti-Ice Off	
Wipers On	
Wipers Off	
Seatbelt Sign On	
Seatbelt Sign Off	
Speed Brake Up	
Speed Brake Out	



Arm Speed Brake	
Disarm Speed Brake	
<b>CHECKLIST AND FLOWS</b>	
Let's Get Started	Alternate verbiage for the Preflight Flow
Preflight Flow	
Preflight Checklist	
Before Start Flow	
Before Start Checklist	
Start Engines	Instructs the Copilot to Start the Engines
After Start Flow	
After Start Checklist	Alternate verbiage for the Taxing Checklist
Taxi Checklist	
Before Takeoff Checklist	
After Takeoff Checklist	
Descent Checklist	
Landing Checklist	
After Landing Flow	
Clean Up Flow	Alternate verbiage for the After Landing Flow
Shutdown Flow	
Shutdown Checklist	
<b>CHECKLIST RESPONSES</b>	
Set	Any command can be used to proceed to the next item
On	Any command can be used to proceed to the next item
Off	Any command can be used to proceed to the next item
Cutoff	Any command can be used to proceed to the next item
Closed	Any command can be used to proceed to the next item
Tested	Any command can be used to proceed to the next item
Completed	Any command can be used to proceed to the next item
Up	Any command can be used to proceed to the next item
Down	Any command can be used to proceed to the next item
Checked	Any command can be used to proceed to the next item
Armed	Any command can be used to proceed to the next item
Auto	Any command can be used to proceed to the next item
Clear	Any command can be used to proceed to the next item
Continuous	Any command can be used to proceed to the next item
Rejected Takeoff	Any command can be used to proceed to the next item
Free And Zero	Any command can be used to proceed to the next item
Normal	Any command can be used to proceed to the next item
Takeoff, No Blue	Any command can be used to proceed to the next item
Landing, No Blue	Any command can be used to proceed to the next item
Notified	Any command can be used to proceed to the next item
Max	Any command can be used to proceed to the next item
Idle	Any command can be used to proceed to the next item



<b>FLAPS, GEAR, AND BRAKES</b>	
Increase Flaps	Increases the flap setting one notch
Decrease Flaps	decreases the flap setting one notch
Flaps Full	
Flaps Up	
Flaps*	For third-party aircraft, simply call the flap setting you want (e.g., Flaps Five); not available for default aircraft
Gear Up	
Gear Down	
Parking Brake On	
Parking Brake Off	
<b>PUSBACK COMMANDS</b>	
Ground From Cockpit	Command to contact ground (i.e., initiate pushback) - Ground Crew replies "go ahead"
Ready For Pushback	Command to inform ground you're ready for pushback - Ground Crew replies "Set parking brake" - If parking brake is set, Ground Crew replies "steering pin inserted, release brake" - If parking brake is released, Ground Crew replies "starting push"
Nose Left	Ground crew will maneuver the tug to move the nose left
Nose Right	Ground crew will maneuver the tug to move the nose right
Nose Straight	Ground crew will maneuver the tug to pushback straight
Stop Push Back	Command to stop push back - Ground Crew replies "stopping push" - Ground Crew instructs the pilot to "set parking brake." - Once parking brake is set, Ground Crew replies, "steering pin removed, have a great flight."
Abort Pushback	Terminates the pushback sequence
Cancel Pushback	Terminates the pushback sequence
Parking Brake Off	

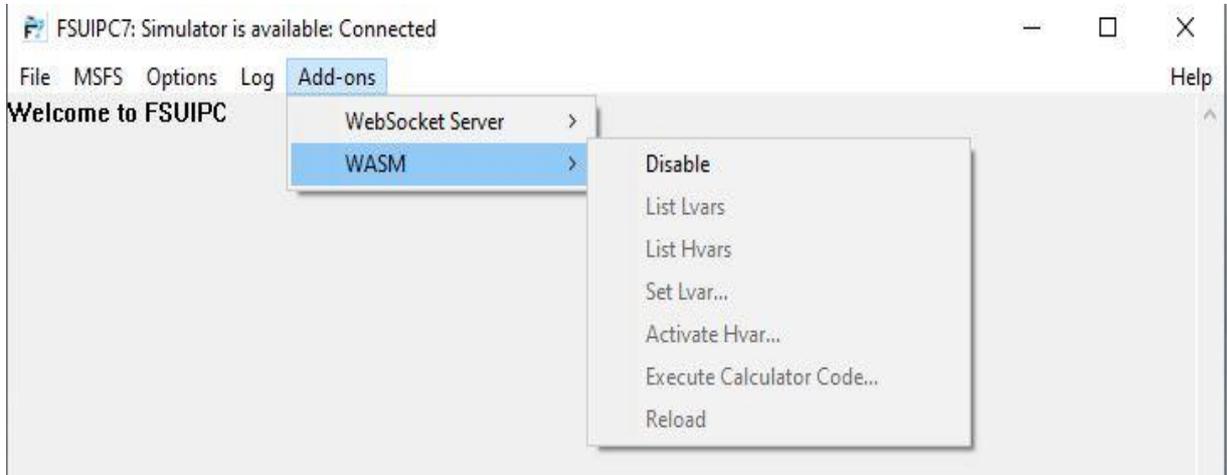


# TROUBLESHOOTING

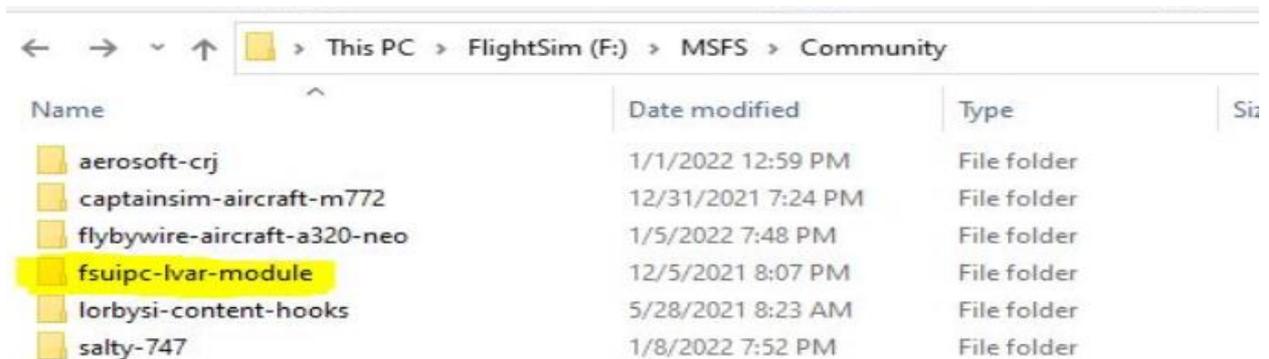
## FUSIPC/WASM

If the Link Button is Red and/or your experiencing anomalies (e.g. FSFO not setting the APU/GPU, etc), please check to ensure FSUIPC is configured correctly:

Open FSUIPC7 > Click Add-ons > WASM:



If FSUIPC is connected, but the LVARs/HVARs are Greyed-out (above), FSUIPC is unable to read your fsuipc-lvar-module folder:



**[For specific help, please see the troubleshooting section on the FSFO forum here:](#)**

<https://flightsimaddons.proboards.com/thread/285/ttroubleshooting-read-first>

## **MSFS COMMUNITY FOLDER LOCATION:**

### **For the Windows Store install:**

C:\Users\[Your User Name]\AppData\Local\Packages\Microsoft.FlightSimulator\_8wekyb3d8bbwe\LocalCache\Packages\

### **For the Steam install:**

C:\Users\[Your User Name]\AppData\Local\Packages\Microsoft.FlightDashboard\_8wekyb3d8bbwe\LocalCache\Packages\

**Important:** *Windows 10 by default hides the “AppData” folder, so you will have to go to “View” in the menu of File Explorer, and select “Hidden items” so as to see it.*

### **For the Custom install:**

If you happened to use a custom location for your Flight Simulator installation, then proceed there.

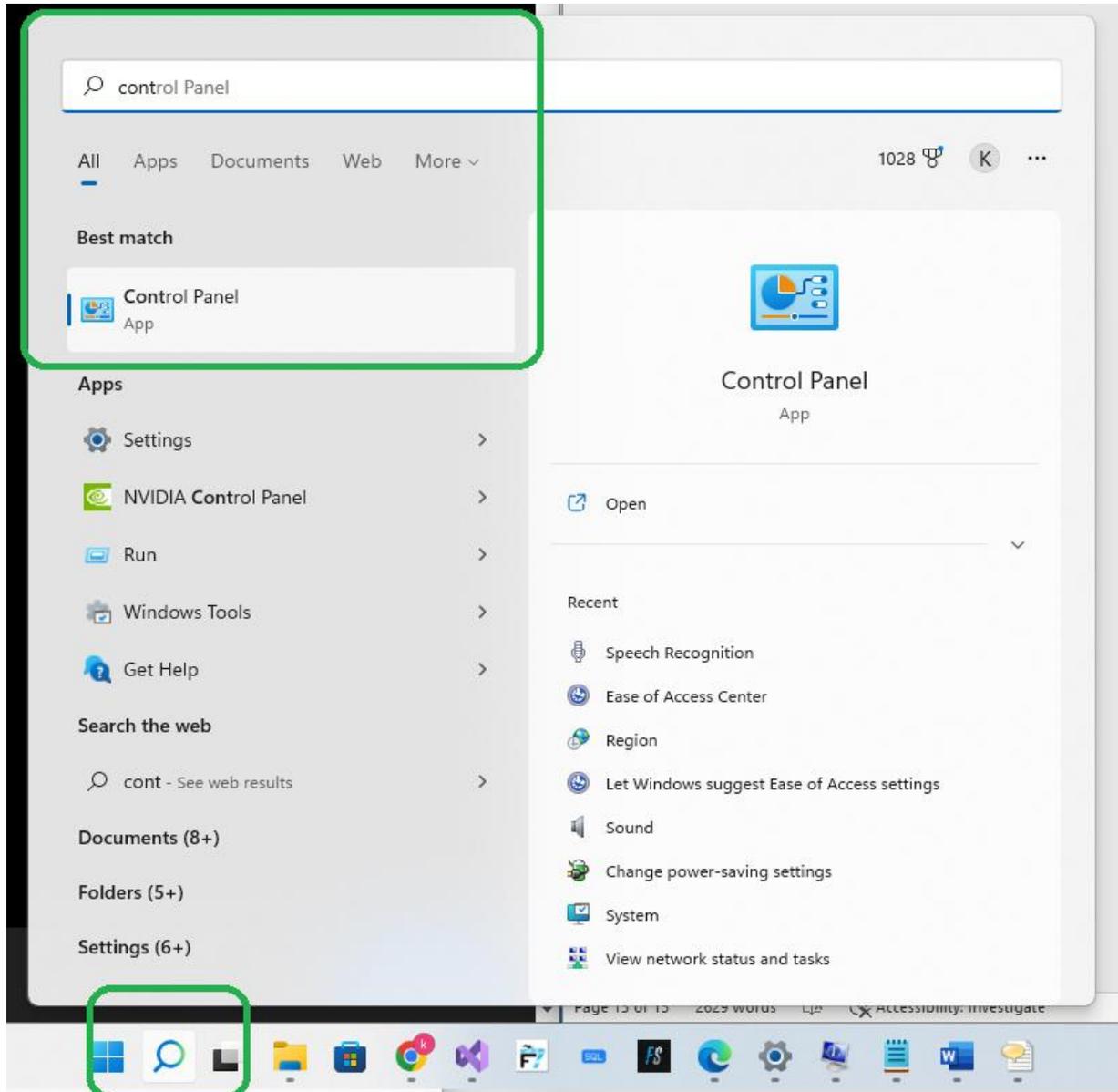
In my case it's: F:\MSFS\Community



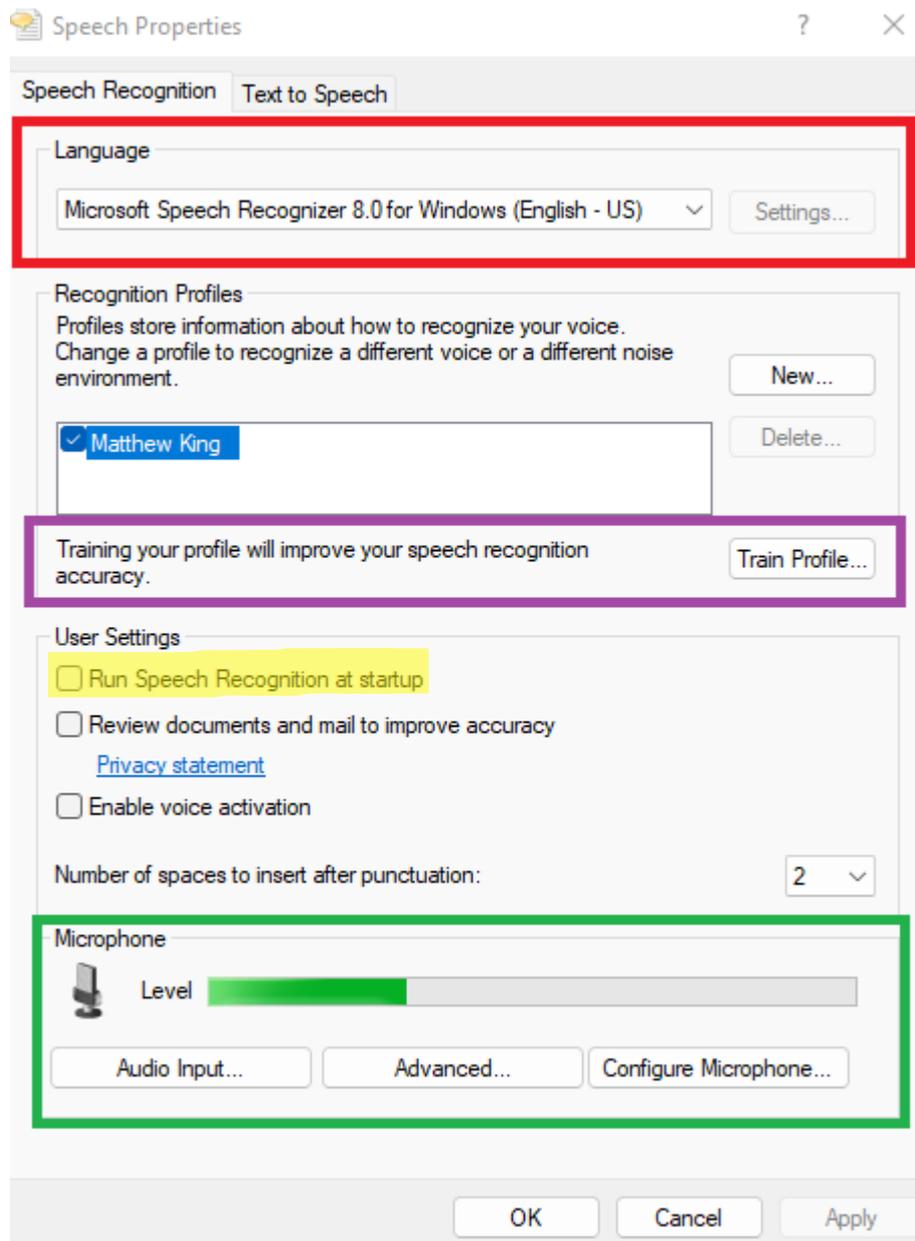
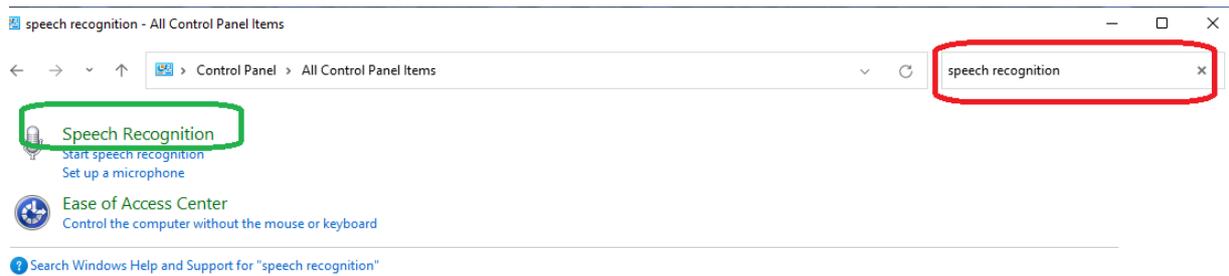
## SPEECH RECOGNITION

FSFO uses Microsoft's embedded speech recognition engine; to that end, FSFO voice recognition support is limited to **US, UK, AU, IN (English India) or CA (English Canada)**.

1. Type Control Panel in the Windows Search Bar:



2. Select the Control Panel
3. Type Speech Recognition in the top right corner (see below)
4. Select Speech Recognition (see below in green)



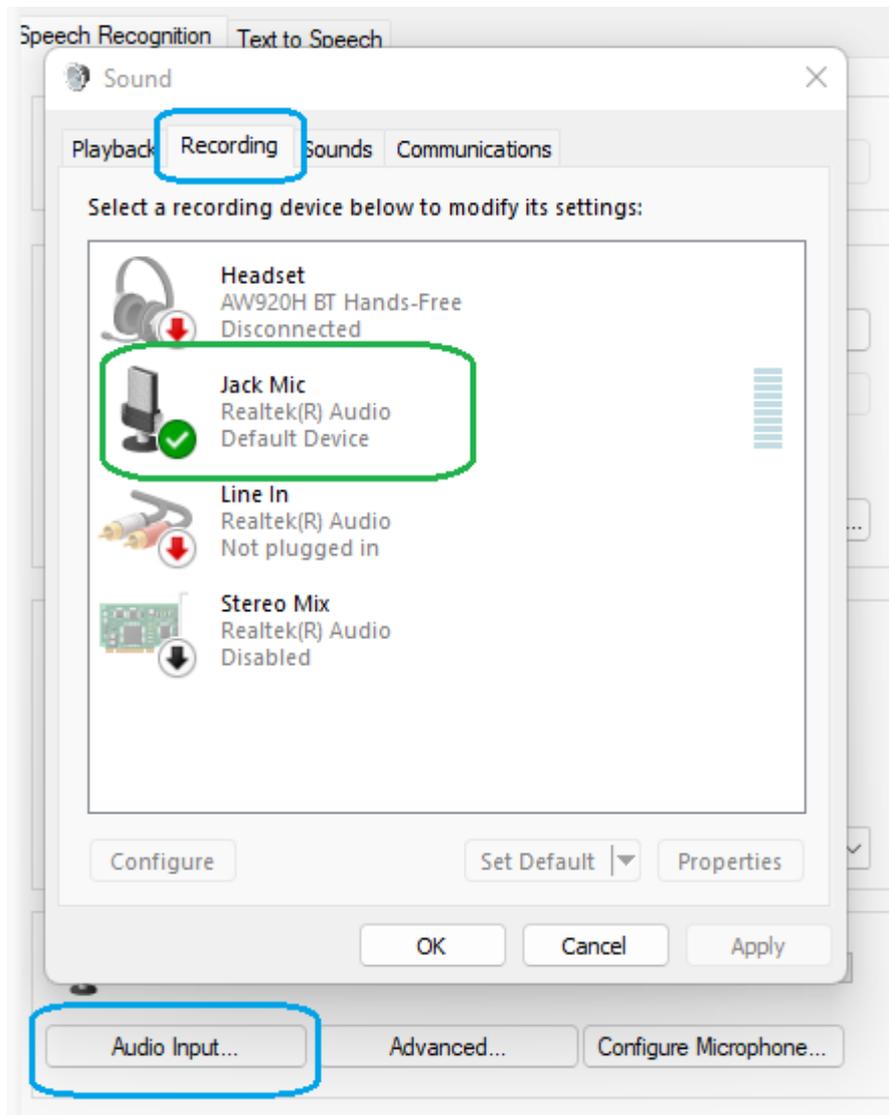
5. Ensure your Speech Recognition engine is set to **US, UK, AU, IN or CA**
  - a. If you're OS language pack is NOT set to English, you can try installing the English language pack; nevertheless, you MUST set your OS display language to English too. See this link for more instructions:  
[https://support.microsoft.com/en-us/windows/manage-display-language-settings-in-windows-219f28b0-9881-cd4c-75ca-dba919c52321#ID0EBD=Windows\\_11](https://support.microsoft.com/en-us/windows/manage-display-language-settings-in-windows-219f28b0-9881-cd4c-75ca-dba919c52321#ID0EBD=Windows_11)
6. If FSFO is having trouble accurately detecting your voice commands, try training your voice profile.



7. Ensure your microphone works

**8. Ensure Run Speech Recognition at Startup is UNCHECKED -Yellow Highlight**

9. If you have multiple microphones, disable them so only one is active:
  - a. Click Audio Input:
  - b. Click Recording Tab
  - c. Right Click all unused recording devices and select disable; ensure one recording device is enabled (green check)



10. Basic Windows Voice Troubleshooting Steps:

<https://support.microsoft.com/en-us/windows/use-voice-recognition-in-windows-83ff75bd-63eb-0b6c-18d4-6fae94050571#:~:text=Here's%20how%20to%20set%20it,re%20ready%20to%20use%20it>

11. Advance Trouble Shooting:

- a. Disable and/or uninstall NAHMIC and ASUS SOUND STUDIO
  - i. Search for YouTube video "uninstall ASUS SOUND Studio"
- b. Uninstall your current audio driver:
  - i. <https://ugetfix.com/ask/how-to-reinstall-audio-drivers-on-windows-10/>
  - ii. Restart Windows
  - iii. Windows will automatically install default Windows's audio drivers

**Access to the path 'C:\Program Files (x86)\Flight Simulator First Officer Next\acft.dat' is denied, or path 'C:\Program Files (x86)\Flight Simulator First Officer Next\user.cfg' is denied, or your configuration is not saving.**

This occurs when FSFO is installed in a protected Windows directory; I recommend installing FSFO (and all applications) on another drive. If you choose to keep FSFO in a protected directory, follow these steps:

Right-Clicking on FSFO > Select Properties > Select Compatibility tab > Check "Run this program as an administrator"

