OCTAVI

THE WORLD'S SMALLEST COCKPIT

IFR-1 User Guide

19 February 2025

CONTENT

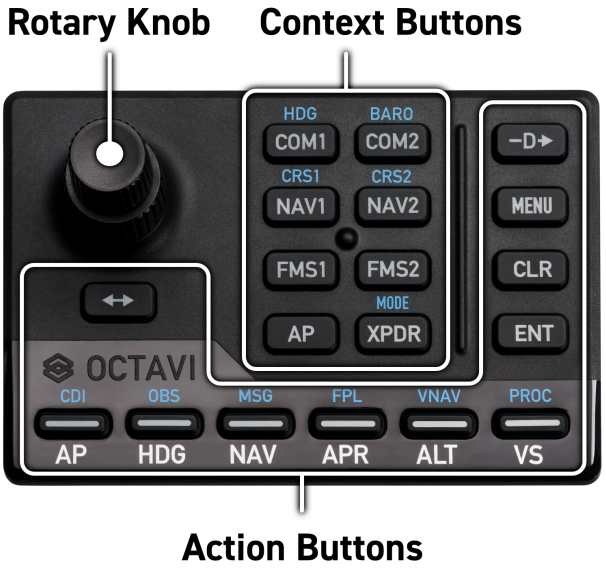
1. Introduction

Congratulations! With your new IFR-1, you can finally use your flight simulator in a fast, ergonomic and thereby realistic way. This document is aimed both at getting you started quickly and providing a reference so you can get the most out of your IFR-1:

- This chapter explains the general principle behind the IFR-1.
- Chapter 2. Setup explains how to set up your computer for the IFR-1.
- Chapter 3. First flight details a simple use case to check that the device is working and to familiarize yourself with it.
- Chapter 4. MobiFlight explains how to use the IFR-1 with MobiFlight.
- Chapter 5. Troubleshooting FAQ lists common problems and how to solve them.

1.1. General principle

The idea behind the IFR-1 is to provide access to a multitude of instruments from a single device. This is achieved by the use of *Context Buttons* that select a *Context Mode*. The actions that the *Rotary Knob* and the *Action Buttons* trigger depends on which *Context Mode* you are in.



Example: Press the *COM1* button to select the *COM1 Context Mode*. Now, the *Rotary Knob* can be used to change the *COM1* standby frequency. *Toggle* (<->) lets you swap the standby and active frequencies.

Context Buttons

The eight *Context Buttons* buttons allow selection of the *Context Modes COM1/2, NAV1/2, FMS1/2*, autopilot (*AP*) and transponder (*XPDR*). When a *Context Mode* is selected, the corresponding button is backlit to indicate that it is active. Some *Context Modes* have a *Shift Mode*. The *Shift Mode* can be regarded as an extension of a *Context Mode* - more on that below.

Dual-axis Rotary Knob

The role of the *Rotary Knob* depends on the selected *Context Mode*. Those actions include:

● Primary functions: Set frequencies, transponder codes, and autopilot variables.
● *Shift Mode* functions: Control additional features like heading, course, QNH (altimeter settings), and transponder mode.

Letters in blue above a *Context Button* indicate that it has a *Shift Mode*. If that is the case, the *Rotary Knob* can be pressed to enter and exit the *Shift Mode*. For example, pressing the *Rotary Knob* in *COM1* will put the device in *Shift Mode.* As indicated above the *Context Button, COM1's Shift Mode* is *HDG* - the *Rotary Knob* now controls the heading bug. When there is no *Shift Mode,* pressing the *Rotary Knob* executes a specific function, such as the *PUSH CRSR* function of a GNS530/430.

Action Buttons

There are eleven *Action Buttons* on the IFR-1: six in the bottom button row, four in the right-side column and the toggle (<->) button. Just like the *Rotary Knob*, the action that is triggered by these buttons depends on the selected *Context Mode*.

Bottom button row

Normally, the six bottom buttons control the autopilot. The labels below the buttons indicate their meanings in this case. For example, when the *AP Context Mode* is selected, pressing the second button in the bottom row will engage or disengage the autopilot's *HDG* (heading) mode. The button will light up to indicate that the *HDG* mode is active.

When either the *FMS1* or the *FMS2 Context Mode* is selected, the bottom row buttons will take on the meanings of the blue labels above the buttons. For example, pressing the first button in the row in *FMS1 Context Mode* will act as the *CDI* button of the *FMS1*.

Right-side button column

The four buttons on the right side of the IFR-1 (*-D>, MENU, CLR, ENT*) are specific to Garmin-type FMS devices such as the G1000 and the GNS530/430. They are only active when the *FMS1* or *FMS2 Context Modes* are active.

Toggle (<->) button

The toggle button is used to swap the standby and active frequency in the *COM1/2* and *NAV1/2 Context Modes*. In the other modes, it takes on a meaning specific to the *Context Mode*. For example, it will reset the altimeter to the standard barometric pressure (29.92 inHg / 1013 hPa) in BARO mode. Refer to 1.3. Explanation of functionality for details.

1.2. Compatibility and recommended software

The Octavi IFR-1 is compatible with popular simulators such as MSFS 2020/2024 and X-Plane 11/12 (Windows and macOS).

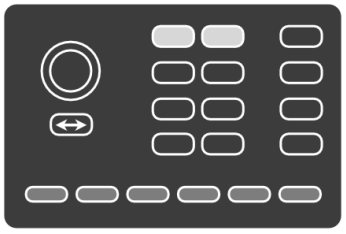
We offer configuration-free plug-ins that are ideal for typical General Aviation aircraft. If you're using the IFR-1 with custom GA aircraft or airliners, using MobiFlight instead of the plug-in can be advisable. With MobiFlight, the IFR-1's behaviour can be customized to virtually any use case. Refer to our website for a range of IFR-1 MobiFlight profiles for a range of aircraft.

Regardless of the software choice you make, it is important to never configure the IFR-1 in your simulator! Due to the nature of the device, any configuration attempt in the sim will remain incomplete.

1.3. Explanation of functionality

The Octavi IFR-1 is equipped with 8 context buttons, ranging from COM1 to XPDR. To adjust an instrument in the cockpit, simply press the corresponding context button to activate it, which is visually indicated by the button lighting up. For additional control options, the rotary knob can be pressed, enabling access to secondary functions highlighted in blue.

COM1 / COM2



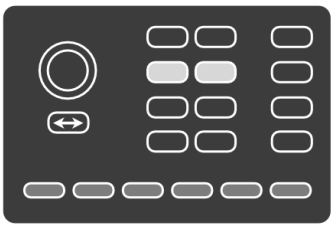
change standby frequency
shift: change HDG / QNH

toggle **shift** mode

toggle STBY / USE

AP controls are active

NAV1 / NAV2



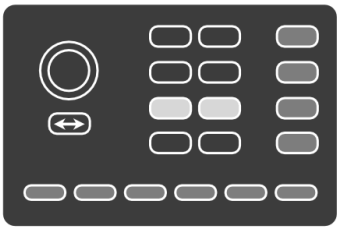
change standby frequency
shift: change CRS1 / CRS2

toggle **shift** mode

toggle STBY / USE

AP controls active

FMS1 / FMS2



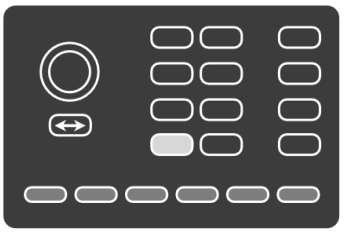
FMS page / chapter

PUSH CRSR

no action

GNS430 / G1000 controls active

AP



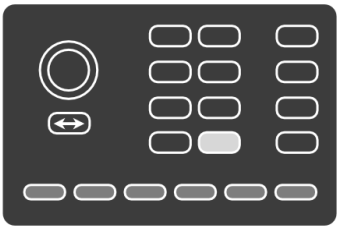
outer knob: target altitude
inner knob: VS/IAS

no action

toggle FLC mode

AP controls active

XPDR



change squawk code
shift: change XPDR mode

toggle **shift** mode

IDENT

AP controls active

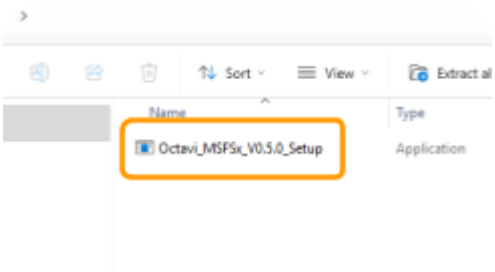
2. Setup

2.1. MSFS plug-in

Download the plug-in from www.octavi.net/ifr-1

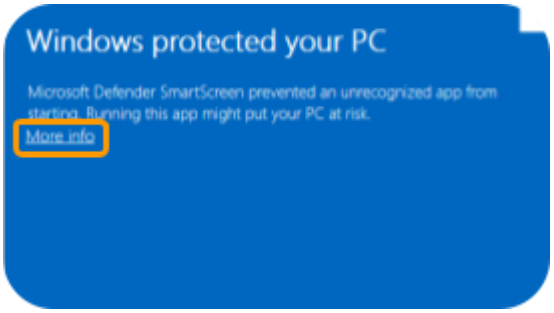
Find and download the plug-in installer specific to your system and simulator.

Open the Setup File

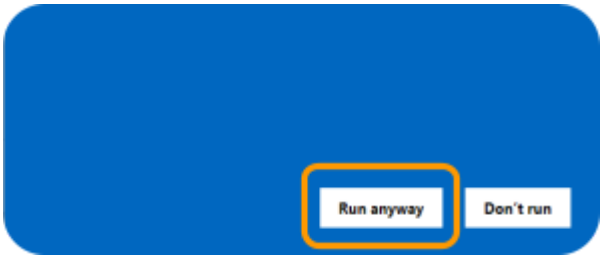


Click More info

You might receive a notification “Windows protected your PC”. Go to “More info”.

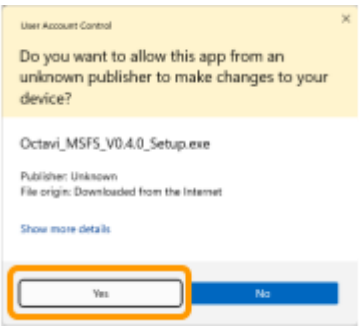


Click Run anyway



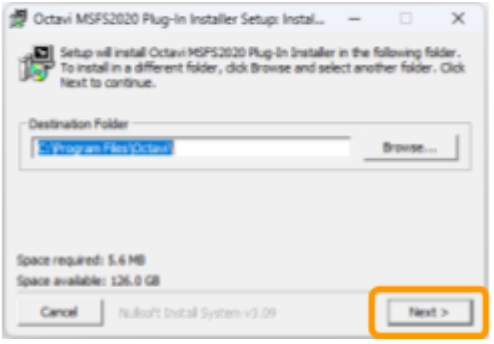
Allow to make changes

Depending on your PC settings you might receive the notification below - click “yes”.



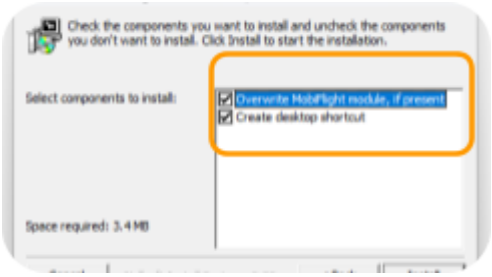
Select the Destination Folder

Per default this will be
C:\Program Files\Octavi\
but you can install it at any location you prefer.



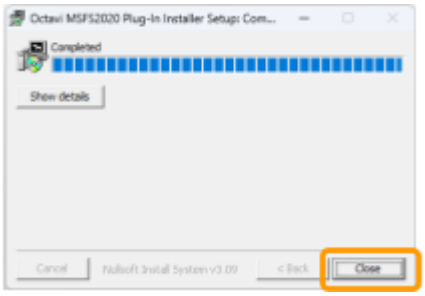
Select components to install

It is recommended to keep the “Overwrite MobiFlight module, if present” option selected in the installation.



Close Installer

Installation is complete

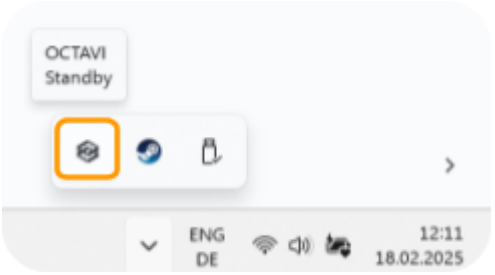


Connect your IFR-1 to your computer

If not already connected physically, now connect your IFR-1 to your computer via USB. If possible, avoid using USB Hubs.

Verify the Octavi plug-in is running

Navigate to your system tray on the taskbar, to the left of the time and date. You will find the Octavi logo in one of the following states:
Yellow (IFR-1 not connected/detected),
Grey (IFR-1 connected, MSFS not running)
Green (IFR-1 connected, MSFS running)



If you want to quit the IFR-1 plug-in, simply right-click on the symbol and choose “quit”.

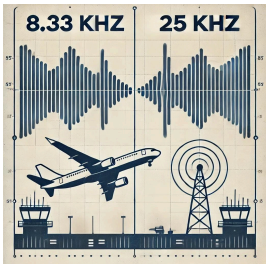
Open Microsoft Flight Simulator

As soon as MSFS has loaded to at least the main menu, the Octavi logo in your task tray will turn green as long as your IFR-1 is connected to your computer.
You are now ready to use the IFR-1 in Microsoft Flight Simulator.

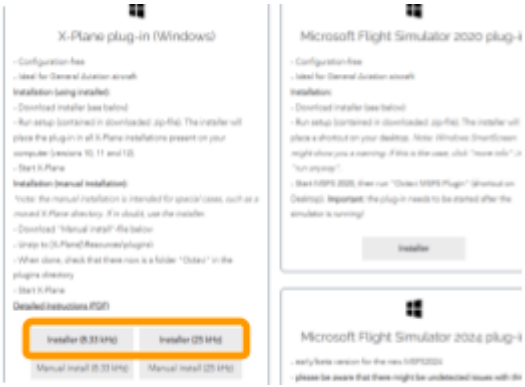
2.2. X-Plane plug-in: Windows installer

Download plug-in from www.octavi.net/ifr-1

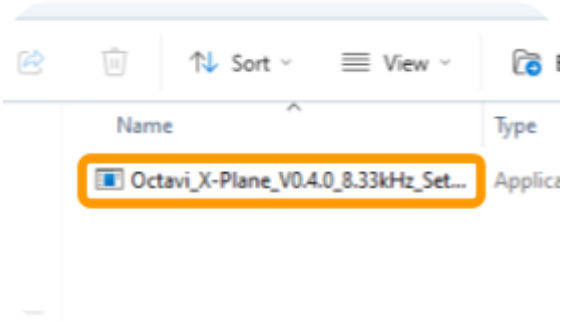
In Europe, radio channels now use 8.33 kHz spacing. If you simulate European operations (e.g., VATSIM, ICAO), choose the 8.33 kHz plug-in. Otherwise, the 25 kHz version will suffice.



Find and download the plug-in installer specific to your system and simulator.

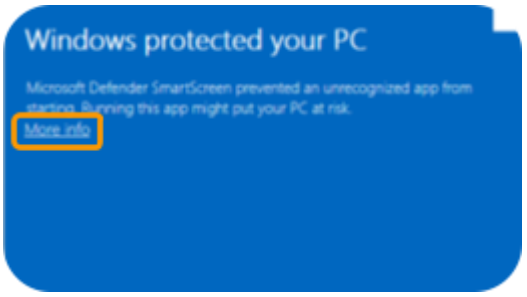


Open the Setup File

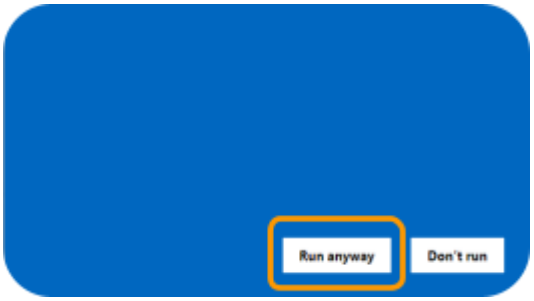


Click More info

You might receive a notification “Windows protected your PC”. Go to “More info”.

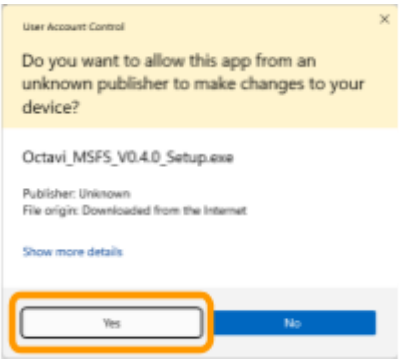


Click Run anyway



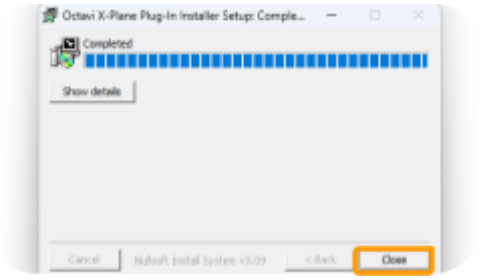
Allow to make changes

Depending on your PC settings you might receive the notification on the right.



Close Installer

Installation is complete. If you receive an error, this indicates that either no X-Plane installation is available on your computer or your plugin folder is in a custom location. Continue with step Windows (Manual plug-in installation)



Connect your IFR-1 to your computer

If not already connected physically, now connect your IFR-1 to your computer via USB. If possible, avoid using USB hubs.

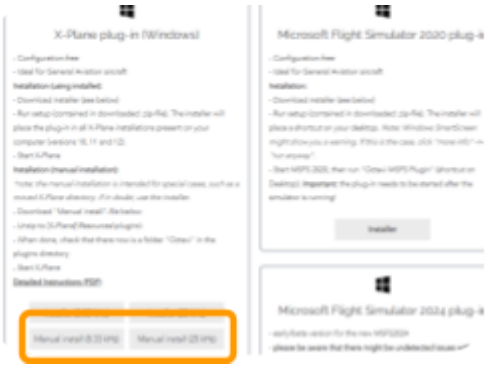
Run X-Plane

Enjoy using your IFR-1 in X-Plane. Read more about setting up a first flight here: 3. Let's get started

2.3. X-Plane plug-in: Windows manual installation

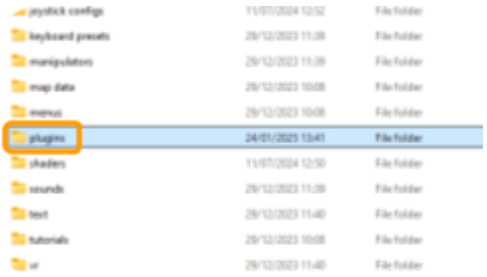
Download manual install file from www.octavi.net/ifr-1

Select and download the manual install file for X-Plane (8.33 or 25 kHz)



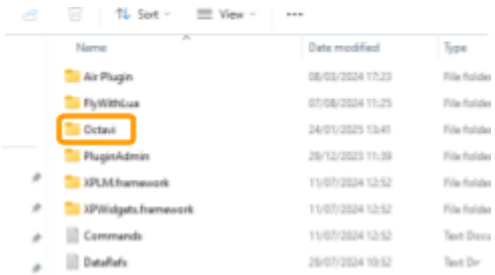
Identify your X-plane plug-ins directory

By default the location is C:\X-Plane 12\Resources\plugins



Place the Octavi Folder into the plugins Folder

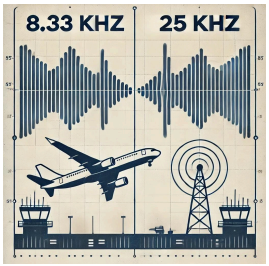
Move the Octavi folder, found in your downloads folder by drag and drop into your plugins folder - setup is complete



2.4. X-Plane plug-in: macOS

Download plug-in from www.octavi.net/ifr-1

In Europe, radio channels now use 8.33 kHz spacing. If you simulate European operations (e.g., VATSIM, ICAO), choose the 8.33 kHz plug-in. Otherwise, the 25 kHz version will suffice.

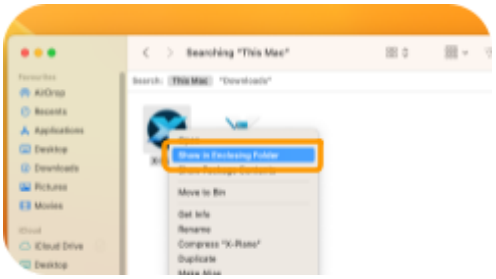


Find and Download the plug-in installer specific to your system and simulator.

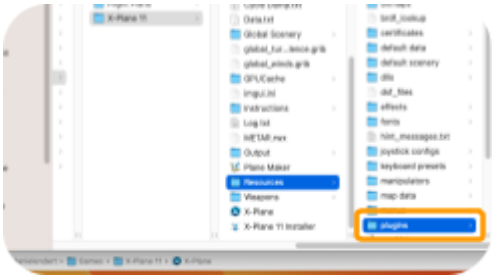
Find your X-plane directory

Open Finder and search for “X-Plane”
The version of X-plane you have on your Mac will show

Right Click (Or 2 Finger Tap) and Show in Enclosing Folder



Navigate to X-Plane 11/12 - Resources - plugins

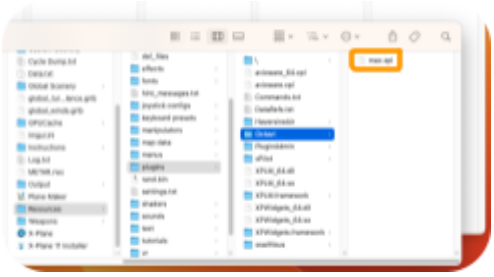


Place Octavi Folder into plug-ins

Move the Octavi folder, found in your downloads folder by drag and drop into your plugins folder

Confirm Octavi Folder in place

Confirm the Octavi folder containing the mac.xpl file is in your plugins folder



Setup complete

Connect your IFR-1 to your Mac

If not already connected physically, now connect your IFR-1 to your Mac via USB.
If possible, avoid using USB Hubs.

Run X-Plane

Enjoy using your IFR-1 in X-Plane. Read more about setting up a first flight here: 3. Let's get started

3. First flight

3.1. Set up a basic flight

Get familiar with your IFR-1 in the standard Cessna C172

Standard GA aircraft such as the Cessna 172 work seamlessly with the IFR-1. If you want to use your IFR-1 with airliners, we recommend using MobiFlight.

No parallel usage of MobiFlight and the Octavi plug-in

If installed, make sure to not run MobiFlight and the Octavi plug-in at the same time since this creates recognition of double inputs.

3.2. Change of COM and NAV Frequencies

The Control of *COM1*, *COM2*, *NAV1*, *NAV2* work identically. The following example showcases how to change *COM1* frequency.

Select COM1

Hit the COM1 button to let the *Rotary Knob* control the COM1 standby frequency.

The COM1 button will light up.

Monitor COM1 frequency

Turning the lower rotary knob adjusts the standby frequencies integer number, the upper rotary knob adjusts the decimal numbers. Hit ↔ to transfer freq. from standby to active.

3.3. Switch to Shift Mode

Pushing the *Rotary Knob* in will activate the *Shift Mode*
COM1 -> *HDG*, *COM2* -> *BARO*,
NAV1 -> CRS1, *NAV2*-> *CRS2*,
The following example showcases how to change the heading bug.

Change Heading

While in *COM1*, push the *Rotary Knob* in to toggle between the white function (*COM1*) and the blue function (*HDG*).
If unsure which mode you are in (blue or regular), switching to a different function (i.e. *COM2*) and back always reverts to regular selection.

Monitor Heading Bug

The lower Rotary knob will change the HDG in 10° steps and the upper rotary knob will change the HDG in 1° steps.

3.4. Control of the Flight Management System (FMS)

Hit FMS1 to activate controls for the Main FMS (Garmin GNS530 in C172). The *Rotary Knob*, 4 right buttons (Direct-To - ENT) and 6 lower buttons (CDI - PROC) become active. The same goes for *FMS2*.

Control of the Flight Management System not working

If the prior operations (Change of COM1 frequency and Change of Heading Bug) worked, but the FMS does not respond, means that the WASM module wasn't installed correctly. Please refer to 5.2.4. How do I install the MobiFlight WASM module manually?

3.5. Control of the Autopilot (AP)

Push AP to activate the autopilot functions. The 6 lower buttons become active. AP to engage/disengage the AP.

HDG Aircraft will follow the heading bug.

ALT Aircraft will hold altitude.

Active mode buttons will light up.

Climb/Descend to target altitude

The lower rotary knob adjusts the target altitude (i.e. 6,000 ft). The upper rotary knob adjusts the vertical speed.

VS Aircraft will climb/descend at selected VS until target altitude is reached (if target altitude is set)

Vertical Speed adjustment not showing

Some autopilots don't provide vertical speed selection feedback even though the IFR-1 makes the desired adjustments. Remember, each click of the upper rotary knob adjusts VS for 100 ft/min. Check with VS indicator.

3.6. Control of the Transponder (XPDR)

The lower rotary knob adjusts the first two digits of the transponder code, the upper rotary knob adjusts the last two digits of the transponder code. IDENT by pressing the switch ↔ button.

4. MobiFlight

4.1. When to use MobiFlight vs. Octavi plug-in (Windows only)

Option	Best For	Features & Setup	Pros	Cons
Octavi plug-In (recommended for most users)	Default GA aircraft (G1000, GNS530/430, standard autopilot) in MSFS & X-Plane.	- Simple **plug-and-play** setup. - No additional software required. - Install the correct plug-in for MSFS or X-Plane. - Works **without** MobiFlight.	✅ Easiest setup – install and use. ✅ No additional configuration required. ✅ Fully supports default GA avionics.	❌ Limited to standard avionics & functions. ❌ May not work with advanced aircraft (PMDG, Fenix, etc.).
MobiFlight preconfigured Octavi profiles	GA and many advanced aircraft are already supported by Octavi's preconfigured profiles.	- Download a **preconfigured .mcc profile** from the Octavi website. - Load the profile in MobiFlight and press **Run**.	✅ Expands IFR-1 functionality beyond the plug-in. ✅ **Preconfigured settings** mean **no manual mapping needed**. ✅ Supports **G1000, PMDG, Fenix, and other aircraft listed below**.	❌ Requires installing MobiFlight and running it with MSFS. ❌ Not as seamless as the Octavi plug-in.
MobiFlight individual/custom setup	Aircraft **not covered** by preconfigured Octavi profiles or users wanting full control.	- Manually map IFR-1 buttons/knobs to aircraft-specific functions. - Configure settings in **MobiFlight Connector**. - Save and run the custom profile.	✅ Full customization for any aircraft. ✅ Enables IFR-1 compatibility with study-level add-ons.	❌ Most complex setup. ❌ Requires time to configure each function manually. ❌ Needs MobiFlight to be running while using MSFS.

Use the Octavi Plug-In

If you fly default GA aircraft (G1000/GNS530/430) and want a simple, plug-and-play experience.

Use MobiFlight with Preconfigured Profiles

If your aircraft is already supported by Octavi's downloadable profiles.

Use MobiFlight with Custom Setup

If your aircraft isn't listed in Preconfigured Octavi Profiles Available for Download or you want a unique control setup.

4.2. Preconfigured Octavi Profiles for MobiFlight - Available for Download

List updated February 1st. 2025, please check https://www.octavi.net/ifr-1 for the most up to date list of available MobiFlight profiles.

X-Plane

✔ X-Plane General Aviation GNS530/430 (X-Plane 10 and newer, GA aircraft like Cessna 172, Garmin GNS530/430)

Microsoft Flight Simulator (MSFS 2020 & 2024)

✔ MSFS General Aviation GNS530/430 (GA aircraft like Cessna 172, Garmin GNS530/430)
✔ MSFS General Aviation G1000 (GA aircraft like Cessna 172, Garmin G1000)
✔ MSFS Carenado Mooney M20R (GA profile adapted for KAP297 autopilot)

Study-Level Aircraft (Requires MobiFlight)

✔ PMDG 737 (Custom function assignments—see overview in .zip file)
✔ PMDG 777 (Custom function assignments—see overview in .zip file)
✔ PMDG DC-6 (Custom function assignments—see overview in .zip file)
✔ Fenix A320 (Requires reading A320 profile instructions)
✔ FlyByWire A32NX (Requires reading A320 profile instructions)
✔ Black Square TBM 850 (Custom EFIS integration, NAV source on CRS1 <->)

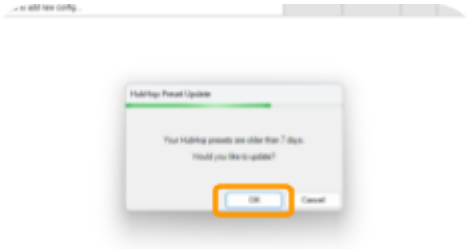
4.3. MobiFlight installation guide

Download MobiFlight from www.mobiflight.com

This will guide you to the latest Version

Install MobiFlight

Open the downloaded .exe file and go through the MobiFlight installation. Let MobiFlight open after installation. You will likely see the below prompt to update the HubHop presets. Click OK

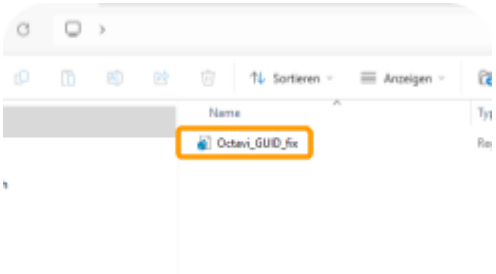


After updating the HubHop presets, close MobiFlight.

Download the MF_GUID.zip-file from https://www.octavi.net/ifr-1

Execute "Octavi_GUID_fix.reg" to ensure proper device recognition.

Open the downloaded MF_GUID.zip and run the Octavi_GUID_fix. The installation file will ask for permission to install multiple times. Go ahead and confirm those prompts to install the file.

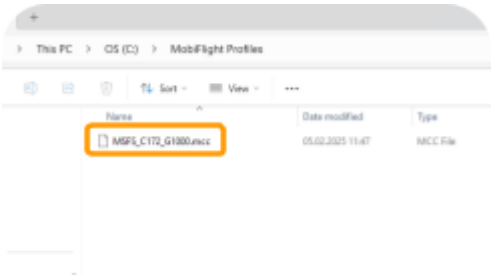


Download and extract an Octavi profile from https://www.octavi.net/ifr-1

Scroll down and find the preconfigured profile suited to the aircraft you want to fly in your simulator and download the profile file.
In the following example downloading for the G1000 profile suitable for GA aircrafts using the Garmin G1000.

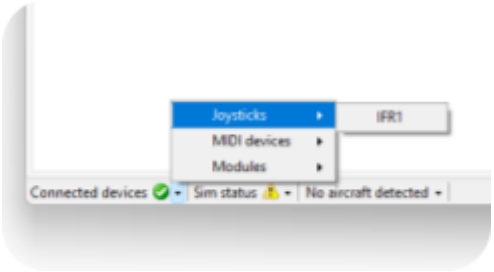
Extract and save the MobiFlight profile

Open the downloaded .zip file and place the included .mcc file in a folder location of your choice. I.e. C:\MobiFlight Profiles



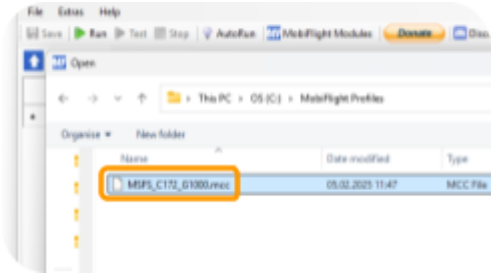
Connect your IFR-1

If your IFR-1 is successfully connected you will see a green checkmark next to Connected Devices. The IFR-1 is listed under Joysticks



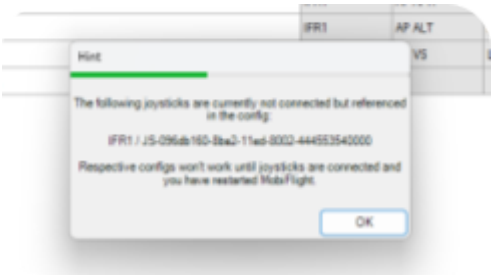
Load the profile in MobiFlight:

Open the MobiFlight connector and click "File" → "Open", then select the downloaded .mcc file.

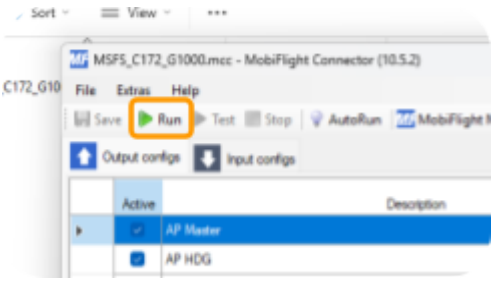


Error IFR-1 not connected properly

If your IFR-1 is not connected properly you will receive the following message. Please close MobiFlight and reconnect your IFR-1. Preferably avoid using USB hubs. Then reopen MobiFlight.



Click "Run" in MobiFlight to activate the profile.



Start your flight simulator (MSFS/X-Plane).

4.4. Create your own MobiFlight Profile

Please refer to www.mobiflight.com MobiFlight\Documentation to learn how to create your own MobiFlight profile.

5. Troubleshooting FAQ

5.1. General Setup Issues

5.1.1. My Octavi IFR-1 is not responding in MSFS 2020/2024. What should I check?

- Ensure that the Octavi plug-in is running (see icon tray in the task bar).
- Ensure that the Octavi logo turns green - this means that the IFR-1 is connected and MSFS is running.
- Verify that the MobiFlight Event Module is present in your MSFS Community Folder.

5.1.2. My IFR-1 doesn't work in FMS1/2 mode. How do I fix it?

- Verify the Community Folder location (see question Where is the MSFS Community Folder located?).
- Manually install the MobiFlight WASM module (see question wasm).
-

5.1.3. Where is the MSFS Community Folder located?

The standard installation path usually is:

- **Microsoft Store Version:**

  C:\Users\[Your Username]\AppData\Local\Packages\Microsoft.FlightSimulator_[randomstring]\LocalCache\Packages\Community

or

  C:\Users\[Your Username]\AppData\Local\Packages\Microsoft.Limitless_[randomstring]\LocalCache\Packages\Community

- **Steam Version:**

  C:\Users\[Your Username]\AppData\Roaming\Microsoft Flight Simulator\Packages\Community

or

  C:\Users\[Your Username]\AppData\Roaming\Microsoft Flight Simulator 2024\Packages\Community

- **Custom Installation:**

  If you chose a custom directory, locate the Community folder inside that directory.

5.2. Plug-in & MobiFlight Issues

5.2.1. When to use MobiFlight vs. the Octavi plug-in?

- Use the Octavi plug-in for a plug-and-play experience with MSFS/X-Plane.
- Use MobiFlight with preconfigured Octavi profiles for advanced aircraft like PMDG, Fenix
- Use MobiFlight for individual custom configurations if an aircraft is not yet supported.

5.2.2. How to switch between MobiFlight and the Octavi plug-in?

- Run only one at a time to avoid conflicts.
- To use MobiFlight, stop/disable the Octavi plug-in and load a profile in MobiFlight.
- To use the Octavi plug-in, close MobiFlight and start/enable the Octavi MSFS/X-Plane plug-in.

5.2.3. My IFR-1 is detected as a joystick, and MobiFlight wants to calibrate it. Do I need to?

- No calibration is needed. MobiFlight recognizes the IFR-1 as a joystick by default.

5.2.4. How do I install the MobiFlight WASM module manually?

- Download MobiFlight from www.mobiflight.com
- Open MobiFlight → Go to Extras → Microsoft Flight Simulator → Install WASM Module.
- Restart MSFS and check if the issue is resolved.

5.2.5. Can I use the Octavi IFR-1 without MobiFlight?

- Yes, the Octavi plug-in allows full functionality for standard GA aircraft.
- MobiFlight is only required for:
  - Custom aircraft profiles (e.g. PMDG, Fenix, FlyByWire).
  - Customizing key mappings beyond default settings.

5.2.6. Octavi IFR-1 is not recognized in MobiFlight

- Ensure that the IFR-1 is connected before launching MobiFlight.
- Restart MobiFlight after running the Octavi GUID fix.

5.2.8. MobiFlight profiles not working correctly

- Ensure the correct preconfigured profile is loaded:
- File > Open > Select the .mcc file specific to the aircraft you want to use
- Click Run in MobiFlight.
- Manually install the WASM module, Open MobiFlight → Go to Extras → Microsoft Flight Simulator → Install WASM Module.
- Check if MobiFlight and the Octavi plug-in are both running—only one should be active.

5.2.9. My IFR-1 is unresponsive in X-Plane. How can I fix this?

- Ensure the Octavi folder is installed in [X-Plane]\Resources\plug-ins.

5.3. Functionality Issues

5.3.1. FMS1/FMS2 buttons are not working in MSFS. How do I fix this?

- Make sure FMS1/FMS2 is selected before using the Direct, Menu, CLR, or Enter buttons.
- Make sure the WASM module is installed correctly (see question MobiFlight WASM module).

5.3.2. Autopilot (VS, ALT, HDG) functions intermittently

- Make sure AP mode is selected on the IFR-1 (AP button should light up).
- Ensure no conflicting hardware bindings override IFR-1 AP functions.
- Make sure that the Octavi plug-in and MobiFlight are not running at the same time.
- If VS is not changing, press VS mode first, then turn the small rotary knob.

5.3.3. How do I adjust Vertical Speed (VS) in the autopilot?

- Select the *AP Context Mode* on the IFR-1 (*AP* button should light up).
- Press VS (should light up).
- Turn the small rotary knob to adjust the vertical speed (increments of 100 ft/min).
- The cyan VS value will appear on the PFD in the G1000, and the AP will follow it until the selected altitude is reached.
- Some Autopilots do not display the selected VS input coming from the Octavi IFR-1 even though it is working, so remember, each click to the right is +100 ft/min, each click to the left is -100 ft/min. Cross check with your Vertical Speed indicator.

5.3.4. How do I use the RNG (Range Zoom) function?

- Select *FMS1/FMS2* first.
- Press and hold the toggle button (<->) while turning the rotary knob to zoom in/out.

5.3.5. How do I enable VNAV using the IFR-1?

- When AP is active, press the rotary knob in AP mode to activate VNAV.

5.4. Device & Hardware Issues

5.4.1. My rotary knob is not working properly or input lags. What can I do?

- Ensure no other USB devices (such as SD card readers or external peripherals) are interfering with inputs.
- Try connecting IFR-1 directly to the PC (avoid USB hubs).

5.4.2. The Octavi IFR-1 lights stay on after I close MSFS. Is this normal?

- Yes, this is normal.
- You can unplug and re-plug the IFR-1 to reset the device to a lights-off state. We are working on a firmware update to change this behaviour in the future.

5.4.3. Some buttons are not working on my Octavi IFR-1. What should I do?

- Verify that none of the buttons are manually assigned in MSFS/X-Plane control settings.
- Test with another aircraft (e.g., Cessna 172 G1000) to check for aircraft-specific issues.
- If issues persist, check for plug-in updates on the Octavi website.
- Make sure you're not using MobiFlight and the plug-in at the same time.

5.4.4. Device lights up, but does not function

- Confirm completed plug-in or MobiFlight installation and setup.
- Try different USB ports and avoid USB hubs.
- Check if the device appears in Windows Device Manager under HID Devices.
- If still unresponsive, contact Octavi for hardware diagnostics.