FPV FREERIDER

RC Quadcopter Racing Simulator

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https://fpv-freerider.itch.io/fpv-freerider

https://fpv-freerider.itch.io/fpv-freerider-recharged

https://play.google.com/store/apps/details?id=com.Freeride.Freerider

Features:

FPV/LOS view
Self-Leveling/Acro mode
Also features 3D (negative thrust/inverted flight mode)
Touch screen/Keyboard/USB Controller input
USB Controllers can be configured for mode 1 – 4
Ability to adjust settings for rates, camera and physics

Default control setting is mode 2:
Left stick – Throttle, Yaw
Right stick – Pitch, Roll

Keyboard shortcuts:

C (or space) - Toggle camera (FPV/LOS)
L - Toggle self-leveling/acro/3D mode
R - Reset quad to starting position
T – Timed race
P – Pause
V – Temporarily hide the on-screen buttons when flying.
esc - Exit to menu
Alt + Enter - Toggle full screen/windowed mode (not applicable to all operating systems)

(If selecting Keyboard as input you can fly with arrow keys plus WASD. Keyboard control is absolutely not recommended, it is really just for testing only).

It is highly recommended to use a USB controller.
Most USB controllers should work* if you have the correct cable/dongle/interface, although it might take some setting up. Generally – if your controller can be recognized as a joystick on your device, chances are you can use it to control FPV Freerider.
In order to use USB controllers on Android, your device needs to support USB OTG, and you will need the appropriate USB OTG adapter.
Please try the free version first to see if it works with your controller.

* Controllers that have been succesfully used include FrSKY Taranis, Spektrum, Devo, Turnigy, Flysky, Eachine, Graupner and Futaba RC radios, Realflight and Esky USB Controllers, Xbox, Playstation and Logitech gamepads.
The HobbyKing 6ch flight simulator USB dummy transmitter controller is known to *not* be compatible with the sim.
See the FAQ/Trouble shooting tips for more info on how to set up your radio.

Controller Setup

After you have made sure that your controller is recognized in your operation system, select “Calibrate Controller” on the main menu screen of FPV Freerider.
Follow the on-screen instructions.

All other sticks other than the one currently being calibrated should be centered. That includes the throttle stick! It should be centered, not at the bottom.
To make sure everything is working as it should you can keep an eye on the circles just above the OK button. Ideally, all the circles will be in a straight line when no input is given. You should be able to move some of the circles smoothly up and down using your controller sticks.
Make sure you hold the stick that is currently to be calibrated all the way in the direction shown while clicking OK. The circle corresponding to the stick that is detected will change to display an abbreviation of the stick name (yaw,throttle,roll,pitch).

(Note: Default is Mode 2. In the controller setup you have the opportunity to configure for different modes by using an alternative stick than the one shown in the picture. Use the stick corresponding to the one shown on the top of the screen, for example “Yaw Left”).

If you have several input devices (such as other joysticks, pedals or steering wheels) connected, that may cause a conflict with the input manager. If you're having trouble calibrating your controller, make sure all other input devices other than the one you intend to use are disconnected.

If needed, it is possible to manually override the automatic stick detection. Instead of clicking OK you can click on the circle that you wish to assign the stick to. You will still need to keep the stick all the way in the direction shown while clicking in order for the calibration to work correctly).

(The movement of the little circles on the calibration screen shows exactly what can be read through the input manager. If all the circles are not lined up straight, or you are not able to move some of them smoothly both up and down you need to calibrate your controller in your operating system or alter some settings on the controller itself (such as trim, midpoint or range settings). Most controllers will work fine with a bit of setting up, but there is no guarantee that your particular controller will work with your particular system. Try the free version first to see).

After calibration, you will be taken to a test screen where you can try the stick input. When sticks are centered, the circles should be in the middle. When stick input is given, ideally you will be able to move the circles smoothly all the way out to the corners of the grid. Here you have the opportunity to manually add digital trim.

If you are using a RC controller you will probably want to select “Throttle zero at bottom” and “Dead zone off” on the main menu.

Graphics Settings

Use the selector on the left of the main menu to set graphics quality. The recommended setting is “Highest”. If you are getting low framerate you might want to select one of the lower quality settings. Running the simulator at lower resolution also helps the framerate a lot.

If you wish to run the game at a different resolution in Windows you can add command line parameters to the .EXE file. (Command line paramenters will work on OS X and Linux too I believe).

For example:

-screen-fullscreen 0 -screen-width 1280 -screen-height 720 -popupwindow

This will run the game in a 1280x720 pixels window with no borders.

On Android you have the option to select between high and low resolution via buttons on the main menu.

Tip: On Windows it is possible to pass:

-window-mode=exclusive

...in order to override the default fullscreen setting and achieve adaptive sync. On some hardware that might give smoother screen update and better performance.

Custom Settings

In the full version there is a Custom Settings screen where you can adjust settings for rates, camera and physics.
There are also a few presets that you can select (Default, Snappy and Snappy2)
You can save your own custom presets in the slots A and B.

3D flight mode

3D mode is selected using the flight mode button on the top left (Self-leveling - Acro - 3D)
To arm the throttle control in 3D mode, put the throttle stick above middle. You will have positive thrust above middle stick and negative thrust below.

Freerider Recharged specific features:

Keyboard shortcuts (Recharged only)

1 - LOS view
2 - FPV view
3 - Ghost quad FPV view (when available)

S - Set the LOS view position (It will be set to the quads current position)

F1 - Record
F2 - Play

How to use the flight recording feature in Recharged:

Press the Record button (or F1) to record. Press again to stop recording.
Press Play (or F2) to play back the recording.

When the recorded flight is being played back you can select the ghost quad FPV view if you wish by pressing the "camera" button or keyboard shortcut "C" as usual. You can also quick select the ghost FPV view by pressing number 3 on the keyboard.

Any other camera view will also work. And, while the recording is being played back you can also fly as usual. The simulator still functions exactly as usual.

Ghost quad racing

You can use the recording feature for simple ghost racing.
When starting a race - if you press record before the countdown has finished, a recording of the race will be made. (The recording will start exactly when the countdown is finished, you don't need to time it perfectly).

When starting a race the next time - press play before the countdown has finished, a ghost quad will be replayed from the previously recorded race. (The replay will start exactly when the countdown is finished, you don't need to time it perfectly).

Note: Flight recording is somewhat an experimental feature. It's admittedly not very intuitive and user friendly. It is mostly for fun really. It works best when the simulator is running at a high and stable framerate.
It is limited to one single recording in memory. Whenever you make a new recording the old one will be lost. A recording or custom LOS view position is not kept when exiting the simulator.

Freerider Recharged Custom Levels:

Running custom levels:

Select Custom Levels in the main menu.
Load the desired level, then press Play.

In order for the level to be found it needs to be inside the Freerider Data folder.
The Data folder is inside the folder where you're running the FPV Freerider executable from (that is, where you unpacked the actual FPV Freerider simulator .zip file).

Windows:
FPVFreerider_Recharged_Data

Mac OS:
FPVFreerider_Recharged.app/Contents

Linux:
FPVFreerider_Recharged_Data

(Note: The name of the custom level .txt file needs to be the same as it's folder name for it to be recognized).

FAQ/Troubleshooting tips:

Q: How do I connect my transmitter?

There are several alternatives, listed below:
(Note: There is no guarantee that any particular method or cable/hardware will work with your setup. There are so many variables, you will have to try)

1. Directly via USB
Some transmitters work directly plugged in via their USB port. That is the case with for example FrSKY Taranis and some Walkera Devo radios.
The Taranis seems to most often work just plugged in as it is via USB on OS X and Android.
Here is instructions for setting up your Taranis radio for use with Windows:
https://drive.google.com/file/d/0BwSDHIR7yDwSOGhPMTFyWEpDVWM/view?usp=sharing
(Note: If you are flashing your Taranis with new firmware, make sure you deselect the "mass storage" option, otherwise joystick emulation is disabled).

The Devo 7E/Devo 10 seems to most often work fine with the stock ini file on OS X and Android.
For Windows - here is a custom model ini file:
https://drive.google.com/file/d/0BwSDHIR7yDwSM0ZPam9LY3N4ZXc/view?usp=sharing

2. USB Dongle
You can try to connect your transmitter using a universal USB flight simulator dongle. Some of them have switches on the side. In that case, find the position that works with your transmitter.

Note: The Phoenix proprietary dongle does *not* work with FPV Freerider, it is deliberately made to work only with the Phoenix simulator.

Here is an example of such a dongle:
22 in 1 RC Flight Simulator Dongle

3. Wireless USB Dongle
This is similar to the method mentioned above. In this case, you use one of your spare receivers and connect it to your computer via the dongle. This might make it a more universal solution, and also you get a wireless connection which some people may prefer. Here is an example of such a dongle:
Wireless Simulator Dongle

(That one will work with most PWM,PPM, S.BUS, DSM2 receivers. At least on Windows, I'm not sure if it will work on other operating systems).

4. 3.5mm audio cable, Smartpropoplus method (Windows)
A lot of Spektrum users are using this method successfully. It also works with a lot of other radios.
Download the application called "SmartPropoPlus" from http://www.smartpropoplus.com/site/ and install it.
Hook your radio up with a standard 3.5mm mono audio cable and plug it into one of your soundcard speaker ports. Mono cables are reported to work the best. Smartpropoplus and vJoy will detect the PPM pulses and transform them into a joystick driver. You can find more information regarding this method in the Spektrum tips and tricks document:

https://drive.google.com/file/d/0BwSDHIR7yDwSaHNwcmZuQm1NeG8/view?usp=sharing

Note: With smartpropoplus, you need to turn off mic filtering in the advanced tab. Otherwise it perceives some of the PPM as noise.
Also, make sure any external mic is disabled while you're using the trainer port and smartproplus, otherwise there might be interference.
(Tip for Linux users: https://github.com/nigelsim/ppmadapter is an linux alternative to SmartPropoPlus)

5. Dedicated USB Controller
This is similar to using a gamepad. Generally you have a lot better control with a dedicated USB RC controller that with a standard gamepad.
Here is an example of such a USB RC controller:
6CH RC Flight Simulator Controller
6. Home-Built USB interface using Arduino
This is an interesting project for those who like to tinker and build things themselves:
http://www.instructables.com/id/RC-Transmitter-to-USB-Gamepad-Using-Arduino/

Q: It doesn't work with my transmitter/Only three of the four axis works:
Here are some suggestions:

- Make sure you don't have any other joysticks/controllers connected, that might cause a conflict.

- If you're having trouble with calibration using a USB connection, make sure you uninstall vJoy and Smartpropoplus if you have that software installed on your computer.

- Make sure you have "Heli" selected as model type on your radio. ("Plane" generally doesn't work so well).

- If you're using a USB dongle - check if there's a switch on the dongle where you can select different modes.

- Perhaps you can remap the output channels (in the menu of the transmitter) so that it sends to another channel.

- If you have tried connecting your transmitter using a USB dongle with no luck, you might want to try the 3.5mm audio cable method which is described earlier in this document.

Q: Since I updated to Windows 10, FPV Freerider won't work:
That problem is most often solved by updating your graphics card drivers (and/or sound card drivers).

Mac installation troubleshooting, four possible solutions:

“Running OSX 10.10.4 (Yosemite) on MacBook Pro from 2010, when I try to open the app, it says: 'The application “FPVFreerider” can’t be opened”

1. If you unzip the file on a Windows machine and transfer the file to your mac with a USB stick it should work.

2. Better solution for anybody else who has this problem. OS X is picky about which programs can be run (the first time) by double-clicking. To run a program that says "this can't be opened", right-click the icon and choose "Open". You'll be given an option to open the program, and from then on it won't bug you.

3. For Mac's having trouble installing FPV Freerider try going to the Mac's System Preferences>Security and Privacy> General Tab and check the box "Anywhere" to see if this allows your Mac to install FPV Freerider.

4. For anybody who is still having the issue of the simulator not opening on OSX 10 - you need to open up terminal and type sudo chmode +x (fpvfreerider.app) and that should do it.

For FPV Freerider Recharged that should be sudo chmod +x ~/Applications/FPVFreerider_Recharged.app

Q: Is it possible to assign the keyboard shortcuts to a switch/button on my transmitter?

Yes, you can use a separate piece of software to do that. Here are some examples of such applications:

Windows: http://joytokey.net/en/

Mac: http://joystickmapper.com/

Linux: http://www.lgdb.org/tool/antimicro

Q: How do I run the simulator on Linux?

FPV Freerider is distributed as a Linux executable, not a package.
Create a "bin" folder in your home directory, this isn't necessary but traditionally, binary executables go in the bin folder. Unzip Freerider_Linux.zip into that directory. Open Freerider_Linux. Right click on the appropriate executable for your system (32 or 64 bit), and select 'Properties'. Click the 'Permissions' tab. At the bottom of that tab check: 'Execute: Allow executing file as a program'. Now when you want to play, just double click that icon.

Q: Joystick calibration doesn't work for me on Linux

Sometimes, buttons must be emulated otherwise the controller is not recognised by FPVfreerider.

To do that, use Wejoy https://github.com/Vantskruv/wejoy and calibrate the original joystick with jscal to get rid of deadzone.

https://fpv-freerider.itch.io/fpv-freerider

https://fpv-freerider.itch.io/fpv-freerider-recharged

https://play.google.com/store/apps/details?id=com.Freeride.Freerider