



VelociDrone Guide
 Last Updated 02.08.2026

Please note, these steps are for those doing Individuals or Duos. If you are doing Combat, refer to this [guide](#). This document will cover everything related to VelociDrone after you have purchased and downloaded the simulator. Many of the items listed in this guide are necessary to ensure your VelociDrone account is ready for racing.

Table of Contents

Section 1: VelociDrone Setup Steps.....	2
A. Opening VelociDrone and Logging in.....	2
B. Binding a Controller.....	3
C. Official Settings.....	4
D. Downloading a Track	7
E. Selecting a Quad.....	8
Section 2: Setting up a Single or Multiplayer Race on VelociDrone	11
Step 1: Open VelociDrone	11
Step 2: Download the Track	11
Step 3: Select Race Mode.....	11
Step 4: Select Quad	11
Step 5: Create or Join a Session (Multiplayer mode only)	12
Step 6: Lobby Settings.....	12
Section 3: Race Support	13
A. The Hud	13
B. Multiplayer Menu (Single player menu looks similar)	14
Section 4: Screenshotting Times	15
Step 1: Finish a Race	15
Step 2: Submit times to the Fenworks Platform	15
Section 5: Troubleshooting.....	16
A. Resetting Your Game	16
B. Battery Simulation in a Race	16
C. Simulator Connection Issues/Updates	16
D. Controller, Cord, or Computer Connection Issues.....	18





Section 1: VelociDrone Setup Steps

These steps will begin with the first time launching the application and continue through completing a race, as well as addressing common troubleshooting issues. For returning individuals, you can skip to the sections that interest you.

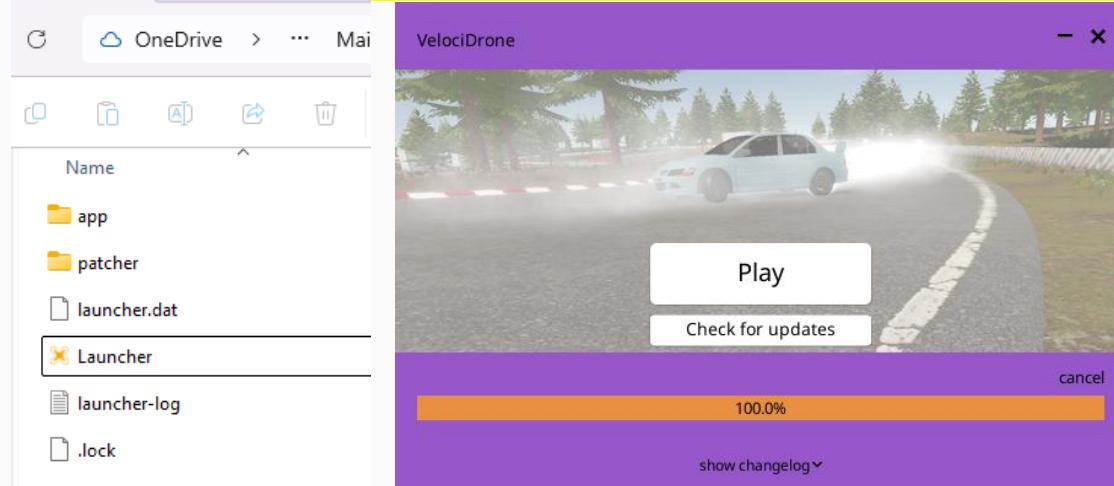
For a guide on how to buy and download the simulator, click [here](#).

To download VelociDrone, click [here](#).

A. Opening VelociDrone and Logging in

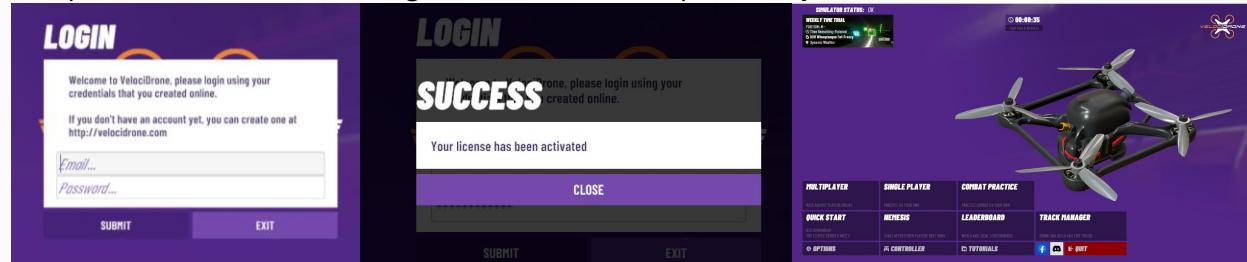
Locate the VelociDrone Launcher file in your computer files and open it. You will then be brought to the launch screen, where you can “Check for Updates” or “Play.” Please check for updates frequently, as multiplayer may become unavailable if the game is not updated. Click “Play.”

Note: Please always launch VelociDrone from the “Launcher” and not the “Application” that it will create. The launcher will always give the option to check on updates, whereas the application won’t. If you do not do these updates, the software will not work all the time.



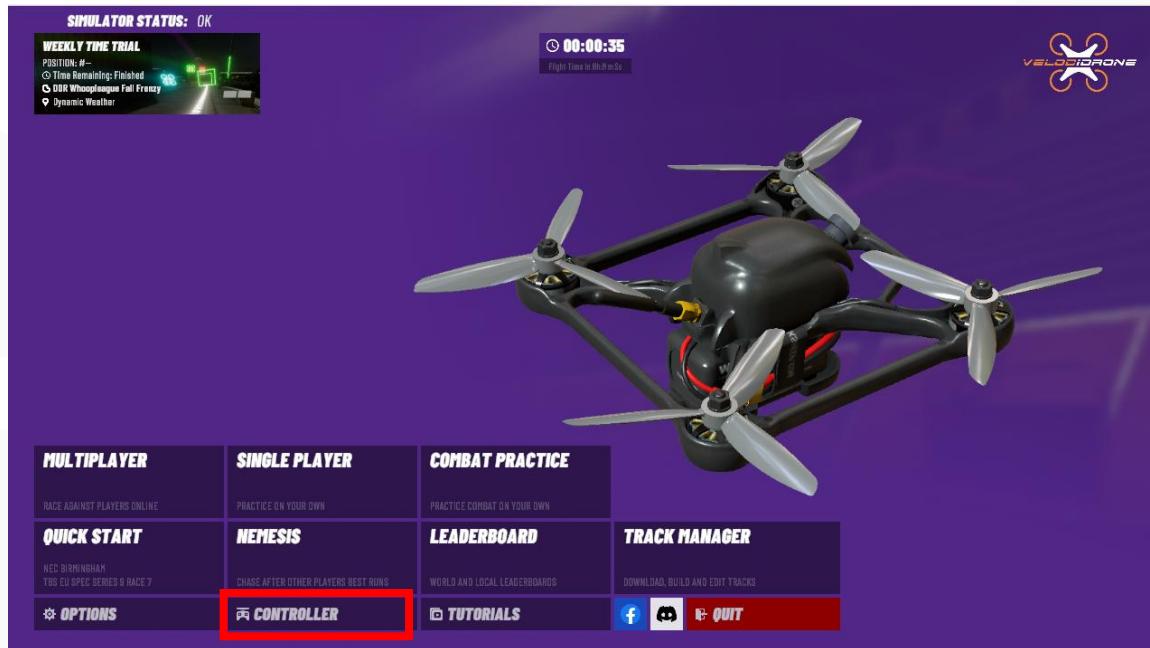
Once you hit “Play,” you will either be brought to the login screen or the game will launch. If you end up at the login screen, enter the email and password used to create the VelociDrone account when purchasing the license. If you are a student, your GM should have these credentials. If successful, you should see a “Success, your License has been activated” notification. Click close, and it will launch the game. Congrats, you should be brought to the main screen.

*Please do not log in and out of the accounts in a short amount of time or switch them between computers. VelociDrone will flag these accounts and potentially ban them.



B. Binding a Controller

The first time you open VelociDrone, you must connect and bind your controller to the game. To do this, click on “Controller” from the main menu.



Take the 6-foot-long USB-A to USB-C or Micro-USB cord (depending on when purchased) and plug the USB-A Side into your computer and the USB-C/Micro-USB cord into the drone controller. Then, turn the controller on by holding the middle circle until it lights up green. This cord should be included in your drone package. Please note that if you use a different cord, you must ensure it has data-transfer capabilities.



On the top left of the screen, you should see EMAXJoystick. Sometimes, the controller is already set up; sometimes, you must configure it. Follow these steps to set up the controller. If the controller is not working correctly later in the season, feel free to return to this step and redo all assignments.

- Assign Controller: Move a stick on the controller to identify the controller to the software.
- Assign Sticks: Follow the instructions on the screen. For the terminology (Roll, Pitch, Yaw, and throttle, see this [handy terminology guide](#)). Please don't reverse any controls, as the drone controls won't match when flying FPV.
- Reset all Assignments: If you are having any issues later down the line or mess up the controls, click this button to redo it all.

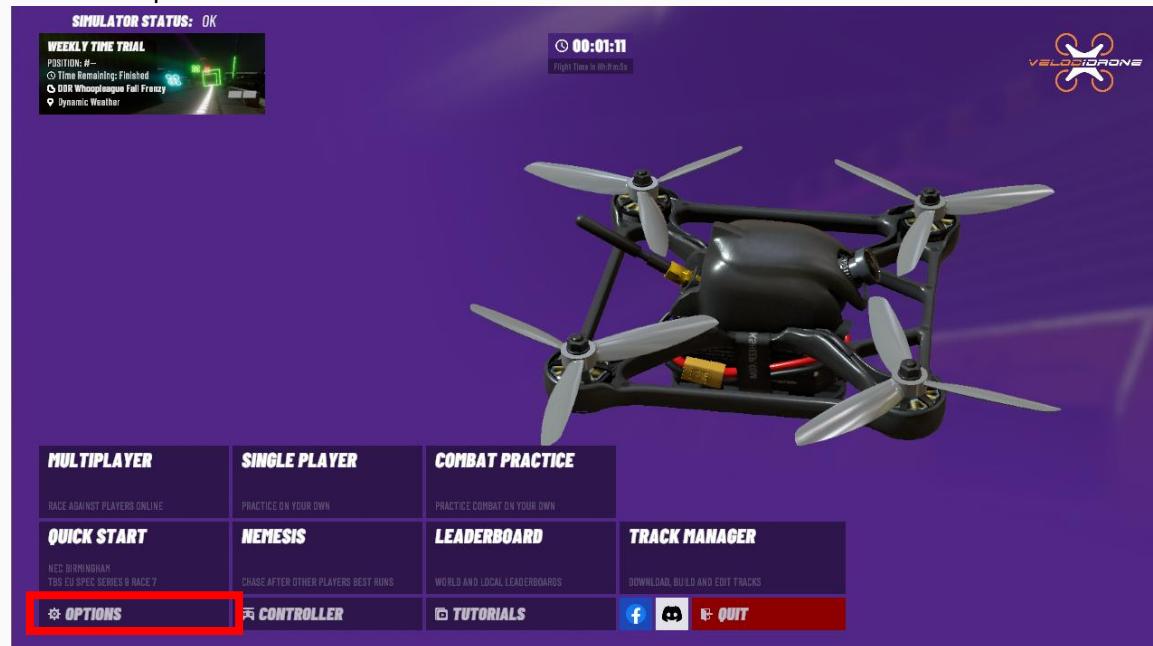


You are allowed to adjust any of the “Advanced Quad Settings” so long as it is not making your quad an unfair advantage. If you have questions or need support, please reach out to drones@fenworks.com. When done, click “Back” on the bottom left.



C. Official Settings

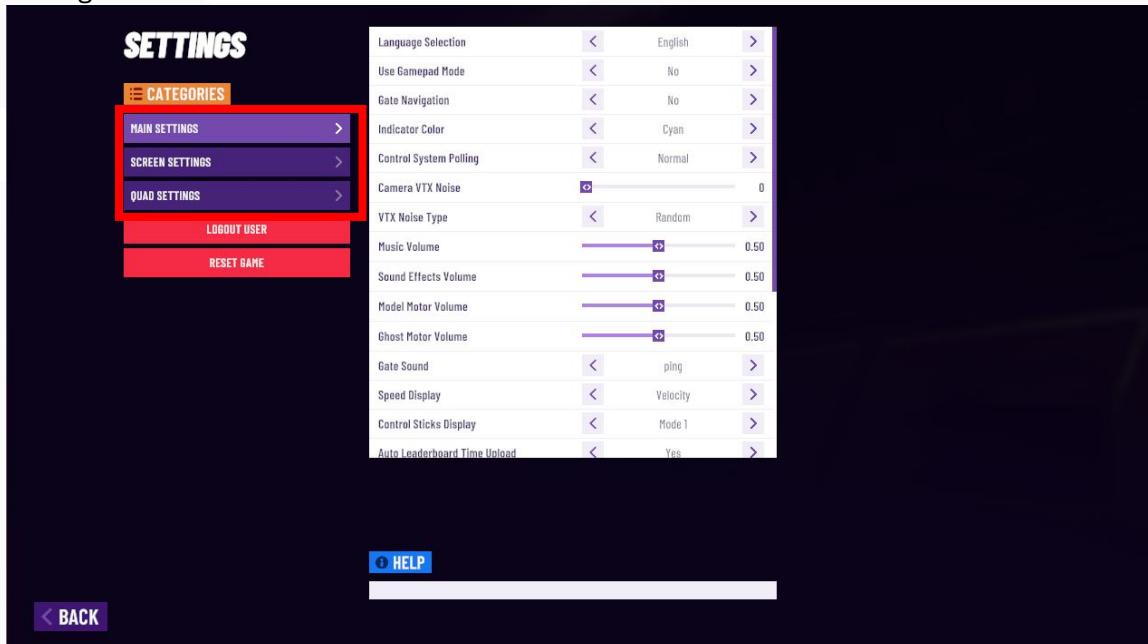
Click on “Options” from the Main Menu.





Every student and GM must follow the settings guidelines before participating in any Matches. This will help ensure that everyone competes on a level and fair playing field. We encourage all students to use the default settings, as it makes it easier to transfer accounts between students. However, some students may prefer to adjust specific VelociDrone settings. While it might help them, if students are not one-to-one with their accounts, these changes may interfere with the functionality of other students' accounts. Please ensure that students document their changes so they can apply them more quickly if they need to change accounts or revert the account to another student.

Fenworks allows most modifications if they don't affect the racing quad. See below for a list of settings that can be modified and those that cannot.



Setting	Value	Control
Language Selection	English	< >
Use Gamepad Mode	No	< >
Gate Navigation	No	< >
Indicator Color	Cyan	< >
Control System Poling	Normal	< >
Camera VTX Noise	0	Slider
VTX Noise Type	Random	< >
Music Volume	0.50	Slider
Sound Effects Volume	0.50	Slider
Model Motor Volume	0.50	Slider
Ghost Motor Volume	0.50	Slider
Gate Sound	ping	< >
Speed Display	Velocity	< >
Control Sticks Display	Mode 1	< >
Auto Leaderboard Time Upload	Yes	< >




VelociDrone Options/Settings

Main Settings	Default	Are you allowed to change it?
Language Selection	English	Yes
Use Gamepad Mode	No	Yes
Dark User Interface	No	Yes
Gate Navigation	Yes	Yes
Indicator Color (of gate)	Cyan	Yes
Control System Polling	Normal	No
Camera VTX Noise	0	Yes
VTX Noise Type	Random	Yes
Music Volume	0.50	Yes
Sound Effects Volume	0.50	Yes
Model Motor Volume	0.50	Yes
Ghost Motor Volume	0.50	Yes
Gate Sound	Ping	Yes
Speed Display	Velocity	Yes
Control Sticks Display	Mode 2	Yes
Auto Leaderboard Time Upload	No	Yes
Lap Time Announcement	Lap Delta Time	Yes
Single Player Race Countdown	3-2-1	Yes
Voice Announcements	No	Yes
Hide My ID From Friends	No	No
End of Race Statistics	Auto Close-10 Seconds	CHANGE TO "NO AUTO CLOSE"
Session Join Method	Unrestricted	CHANGE TO "Restricted"
WebSocket Communication	No	No
Leaderboard Times	All Times	Yes
Sign User Out on Quit	No	Yes

Screen Settings - All options can be adjusted.

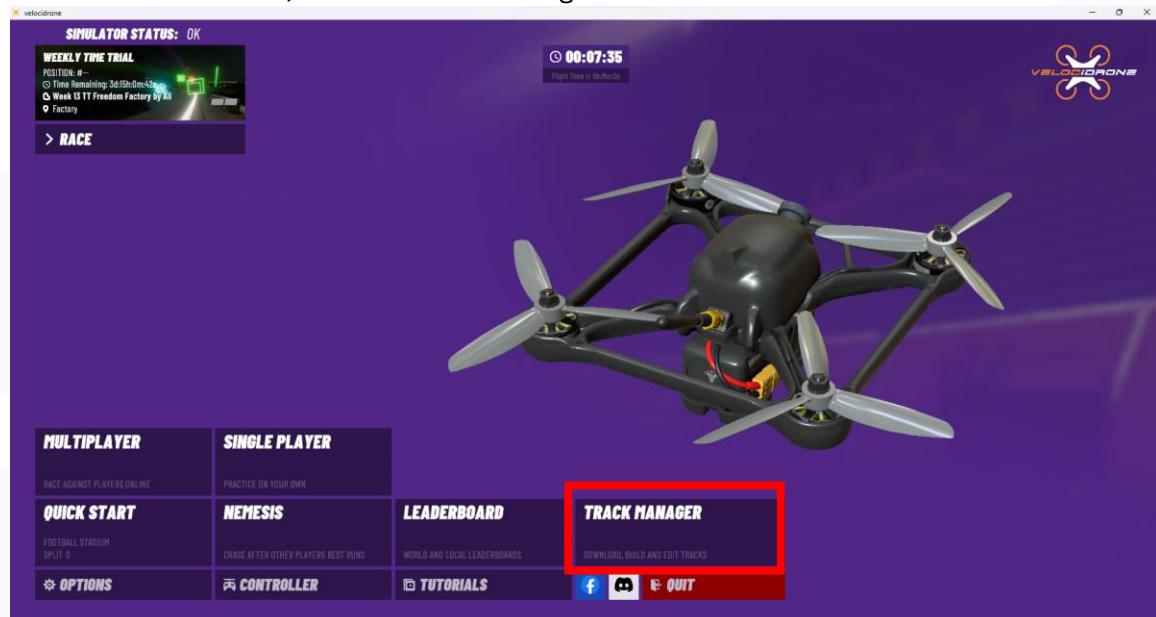
Quad Setting	Default	Are you allowed to change it?
Multiplayer Color	Magenta	Yes
Physics CPU Usage	High	Yes
Camera Field of View	115	Yes
Flight Controller	BetaFlight 4.2	No
Quad Rear Spotlight	False	No
Low Detail Quads	True	Yes
Allow Midair Collision	False	No
Trails Enabled	True	No – This must be set to true
Quad Audio	On Quad	Yes
Line of Sight Camera Height	1.80	Yes
True Lens	False	Yes
True Lens Size	Micro 2.1mm	Yes
True Lens Quality	High	Yes
Flight Displays	Normal	Yes
Ammunition Display	None	Combat - Change to Circle or Line





D. Downloading a Track

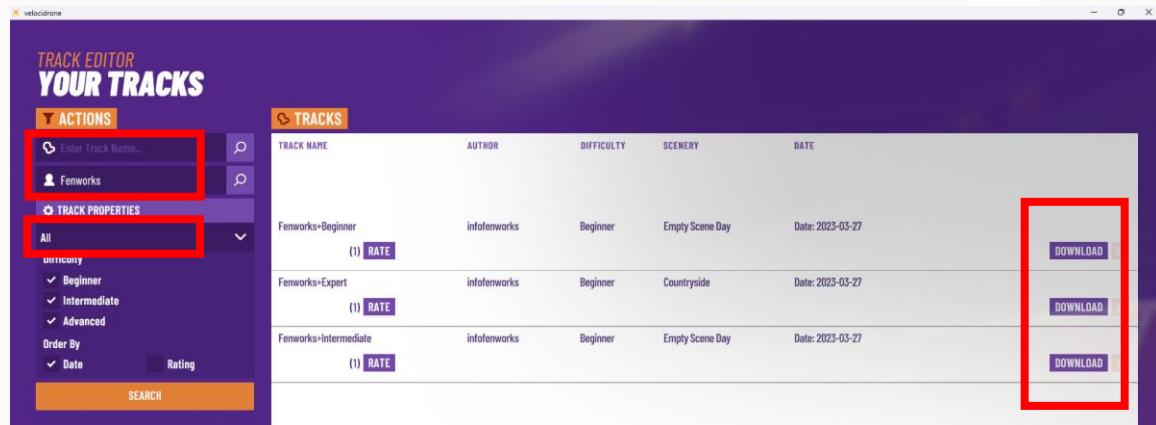
From the Main Screen, click on "Track Manager."



Click "Download Track"



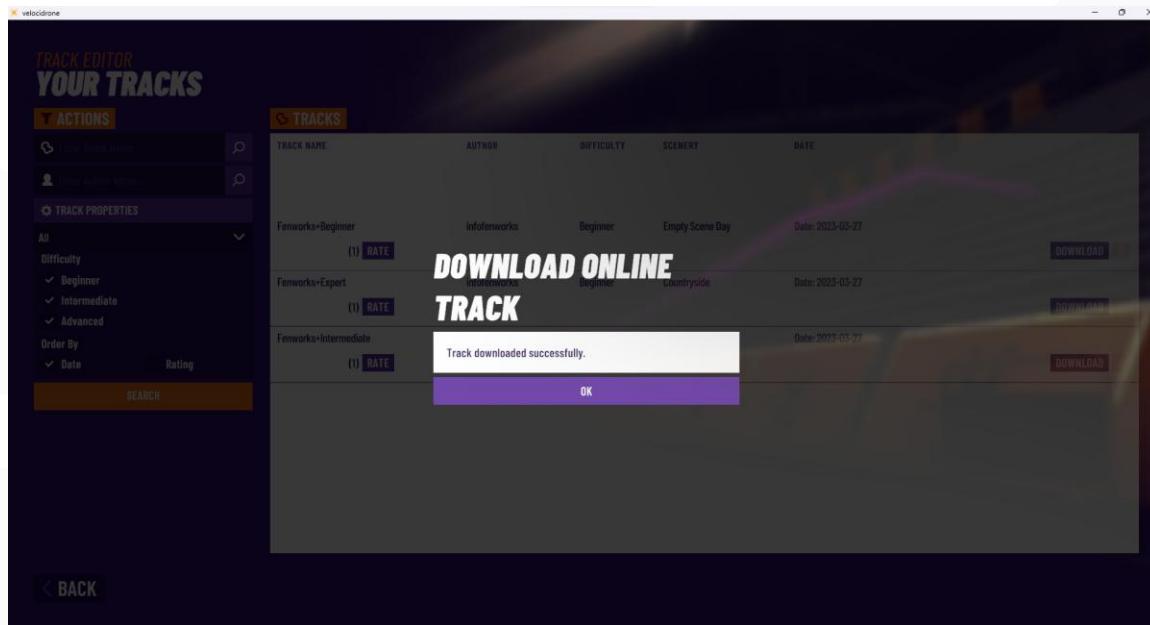
Type "Fenworks" in the "Author Name" box or type the track name in the "Track Name" box and click "Search." Make sure that "All" is set for Track Type. Choose the course you want to download and click "Download."





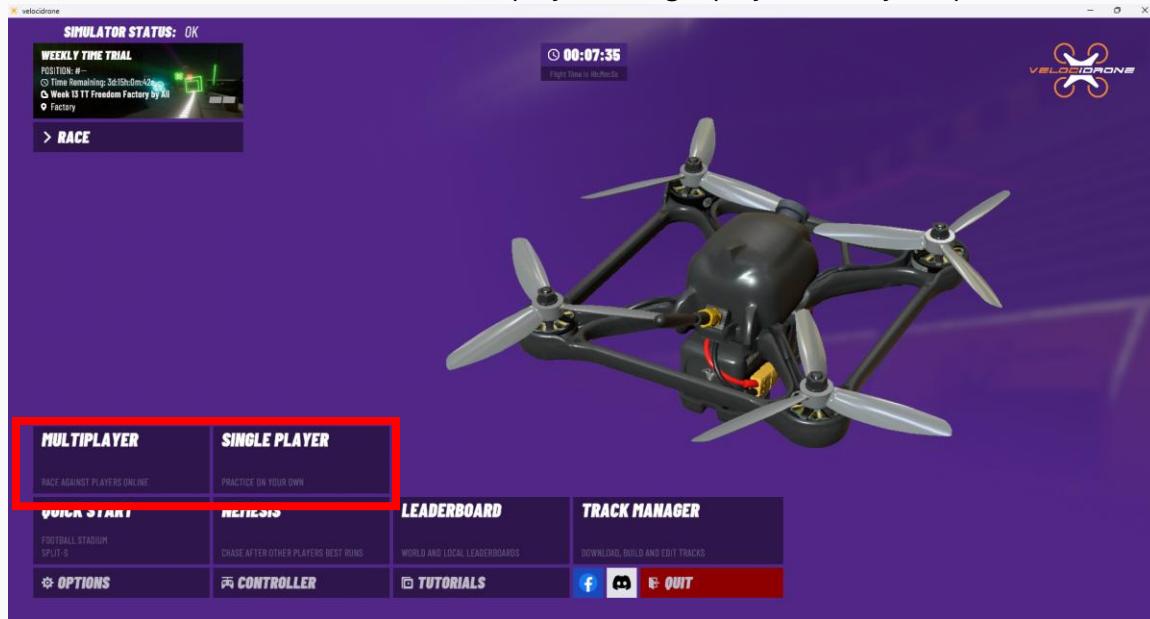
drones@fenworks.com
(701) 248-9786

Congrats, your track is downloaded. Click the “OK” button and then click the “back” button on the bottom left.



E. Selecting a Quad

From the main menu, select either multiplayer or single-player to edit your quad.





Click “Add Quad” in the bottom left.



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SINGLE PLAYER
SELECT QUAD

MY QUADS

5" RACING

TBS OBLIVION

+ ADD QUAD

BACK

TBS OBLIVION
TBS OBLIVION

EDIT QUAD

CONTINUE >

QUAD SETTINGS

GENERAL	
Frame Lift - Downforce	100%
Air Mode	True
Quad Weight	100%
DRAG	
Drag Front	100%
Drag Top	100%
Drag Side	100%
PROPELLERS	
Propeller Size	5146
Propeller Power	100%
Prop Wash	0%
Propeller Profile	2
CAMERA	
Camera Angle	35°
Camera Mix Angle	0°
BATTERY	
Battery Simulation	False
Battery Size	1300
Battery Mass Effect	0%

Select the category “Micro Quads.” Choose Tiny Hawk 2. For those in combat, follow the combat guide found [here](#).

MY QUADS
ADD NEW QUAD

CATEGORIES

ALL QUADS

RACE QUADS

FREESTYLE QUADS

MICRO QUADS

MEGA QUADS

TOOTHPICK QUADS

COMBAT QUADS

TBS SPEC QUADS

FREEDOM SPEC QUADS

STREET LEAGUE QUADS

PRO SPECIFICATION

MICRO QUADS

ACROBEE	BEEBRAIN	CRAZYBEE MICRO	MOBULA 6	TINY HAWK 2
ACROBEE PHB	BETAFPV 75X	HUMMINGBIRD RS	MOBULA 6 2024	ZEROGRAV
AIR 65 FREESTYLE	CETUS PRO	HUMMINGBIRD VS	RACE WHOOP	
AIR 65 RACING	CETUS X	METEOR 65	TINY HAWK	

BACK

Click “Add Quad” in the bottom right. From these quad settings, **you are only allowed to change the Camera Angle and Camera Mix Angle. All other settings are NOT allowed to be adjusted.** If you have multiple students using an account, feel free to add a nickname as well. *Note: there is a bug where on this screen it shows the propeller size of 40 mm, but the next screen shows 31mm. That’s fine.





MY QUADS

EDIT QUAD SETUP

QUAD INFORMATION

1st MICRO

DEFAULTQUAD381
TINY HAWK 2

RENAME QUAD

REMOVE QUAD

QUAD SETTINGS

Quad Weight 100%

Drag Front 100%

Drag Top 100%

Drag Side 100%

Propellers

Propeller Size 40mm

Propeller Power 100%

Prop Wash 30%

Propeller Profile Profile 2

Camera

Camera Angle 30°

Camera Mix Angle 0°

Battery

Battery Simulation false

Battery Mass Effect 0%



< BACK

SAVE QUAD >

Your quad is now ready to be used in a race. *Note: there is a bug where on the edit quad screen it shows the propeller size of 40 mm but on this screen, it shows 31mm. That's fine.

SINGLE PLAYER SELECT QUAD

MY QUADS



5th RACING



+ ADD QUAD

< BACK

1st MICRO
DEFAULTQUAD631
TINY HAWK 2

EDIT QUAD

QUAD SETTINGS

General

Frame Lift - Downforce 100%

Air Mode False

Quad Weight 100%

Throttle Limit 100%

Drag

Drag Front 100%

Drag Top 100%

Drag Side 100%

Propellers

Propeller Size 31

Propeller Power 100%

Prop Wash 30%

Propeller Profile 2

Camera

Camera Angle 30°

Camera Mix Angle 0°

Battery

Battery Simulation False

Battery Size 450

Battery Mass Effect 0%

CONTINUE >





Drone Racing

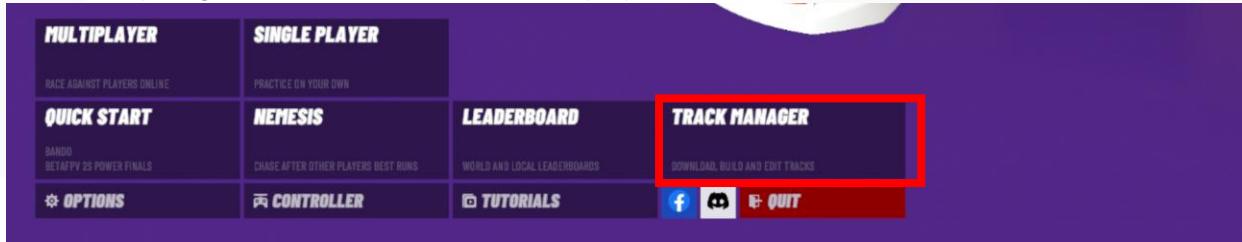
Section 2: Setting up a Single or Multiplayer Race on VelociDrone

Step 1: Open VelociDrone

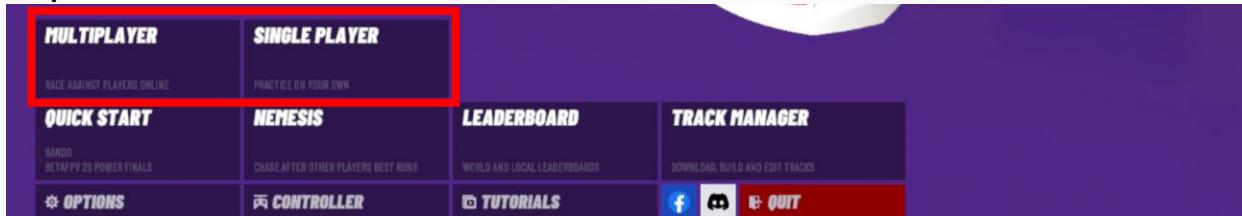
All students will open VelociDrone, each on a different account.

Step 2: Download the Track

Click on “Track Manager” and download the track(s) of the week. See Section 1D above for more information on how to download the track. Once the track is downloaded, return to the main menu.
*Note: Only single racers or the host of a multiplayer racer needs to download the track.

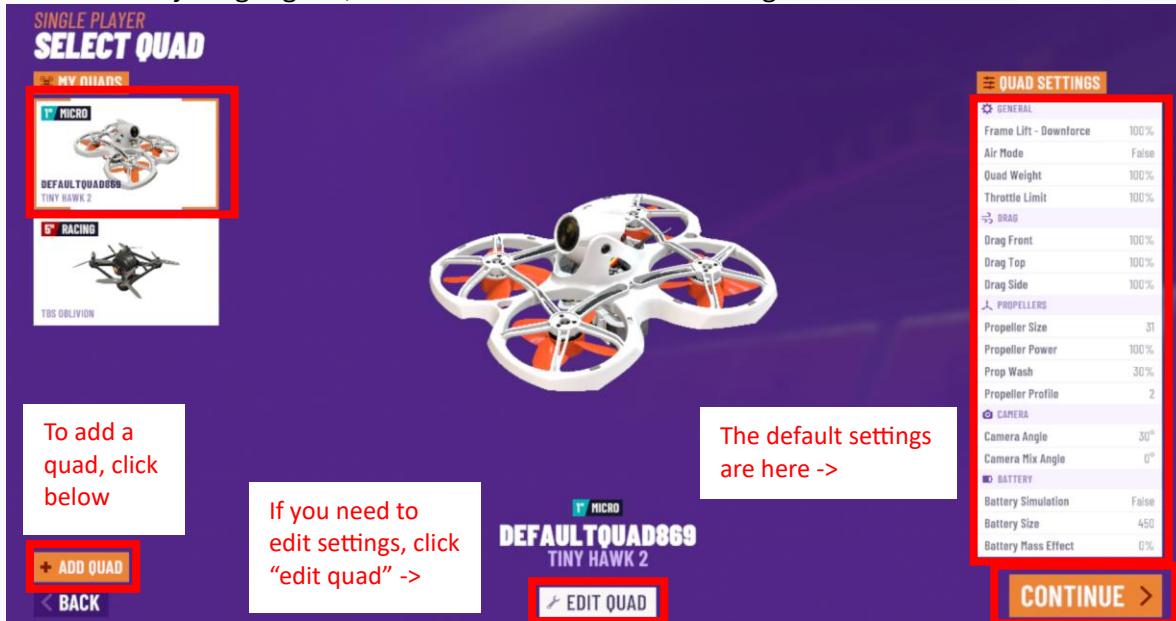


Step 3: Select Race Mode



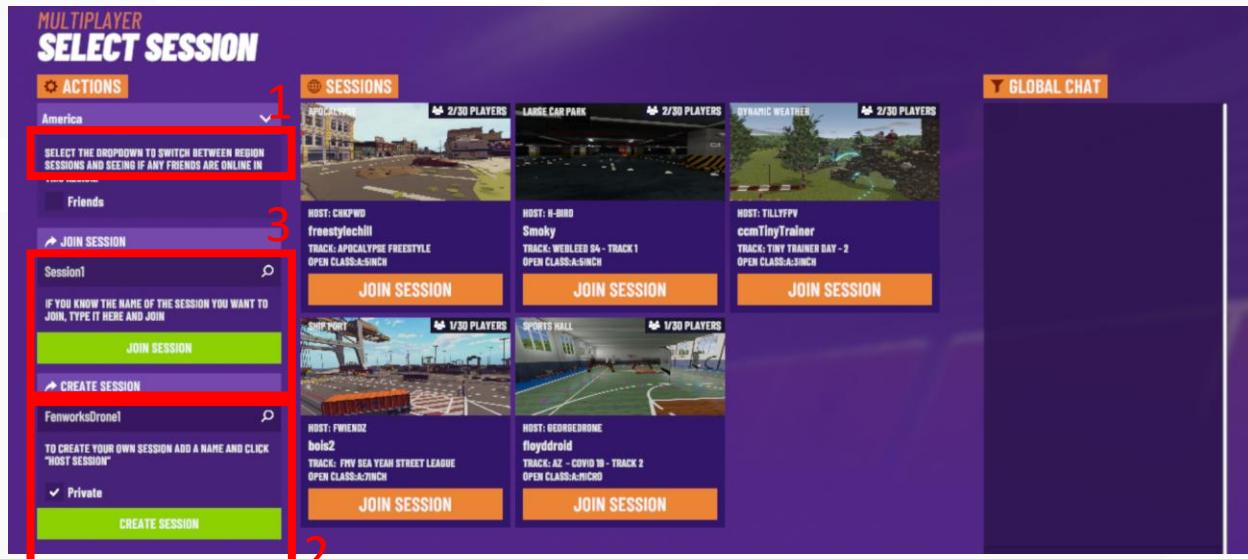
Step 4: Select Quad

You will be brought to the “Select Quad” screen. Please check that the Tiny Hawk 2 drone is selected and that all the drone/quad settings are following legal changes if you choose to change the settings. For more help making sure you have the correct Tinyhawk settings, see Section 1E above. If everything is good, click “Continue” in the bottom right.

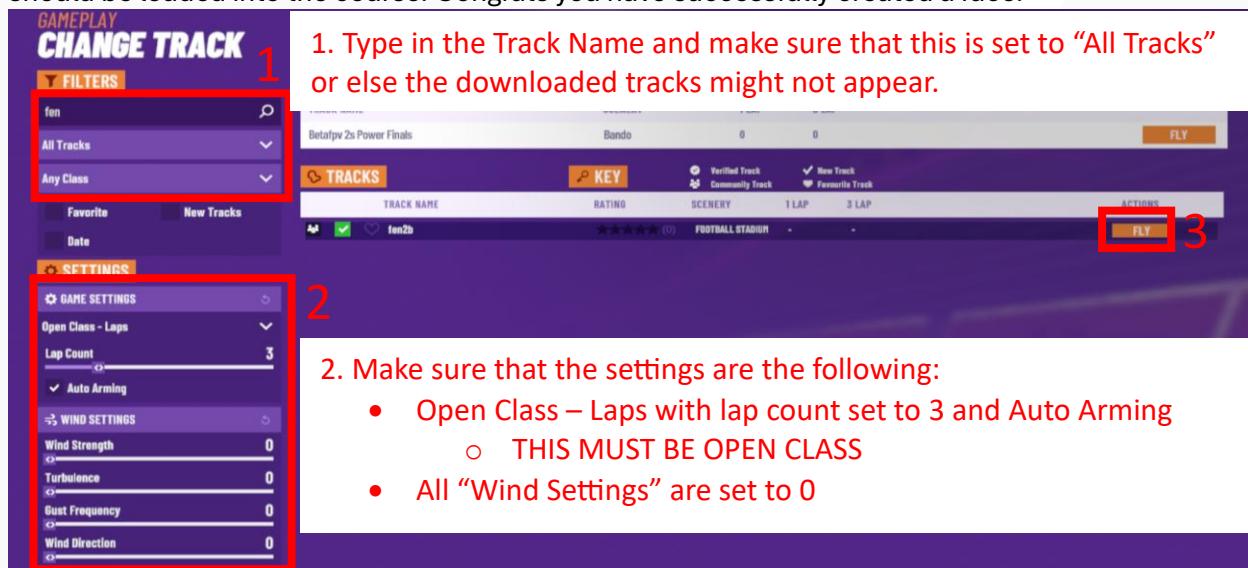



Step 5: Create or Join a Session (Multiplayer mode only)

- 1. **Everyone:** For all multiplayer lobbies, please make sure the region is set to “America.”
- 2. **Host:** One racer must set up the lobby if you are the home (left) team. Find the “Create Session” box, create a unique session name, and check the “Private” box. Then click “Create Session.” Make sure to message in the chat on the Fenworks Platform what the lobby name is to the other team. *NOTE: The session name is case-sensitive.
- 3. **All Other Racers:** If you are on the away team or the home team and not the racer hosting the server, find the “Join Session” box and type in the code the host racer messaged in the chat on the Fenworks Platform. *NOTE: The session name is case-sensitive.


Step 6: Lobby Settings

If you are making the lobby, please make sure all the lobby settings are correct. Type the track's name and ensure that “All Tracks” is selected below it. If you don't, the track might not appear. Also, make sure that the “Game Settings” are correct, as if they are on something other than Open Class, it could impact how your drone operates in the game. Once everything is correct, click “Fly.” You should be loaded into the course. Congrats you have successfully created a race.



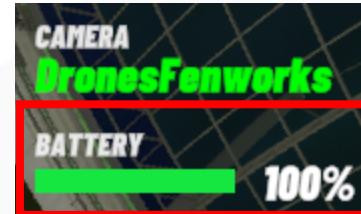


Section 3: Race Support

A. The Hud

Upon spawning into the race, you will have time to fly around and test the course. The HUD displays several important items.

1. The top left corner shows your VeloDrone account name and crashes. Please note that we do not care about crashes and that there are no penalties for them.
***Note: You should NOT see the battery icon. If you do, you set up the lobby settings incorrectly. Please see Section 2, Step 6 of this guide for more support.**
2. The top middle shows the lap time and the total race time. For the Fenworks Program, total race time will be the only important number we will focus on.
3. The top right shows the racer's mode, lap, and position.
 - a. Mode: **All racers are allowed to fly using any of the 3 modes: Angle, Horizon, and Rate.** Angle is the easiest as it automatically self-levels itself. Horizon is like Angle, however, it does less self-leveling than Angle. Rate is the hardest as there is no self-leveling, allowing for full utilization of the drone controls. Section 3B in the Help section shows how to change these
4. The bottom left shows the drone's speed and wind speed. Please note that the Tiny Hawk 2s should not go faster than 28-32 mph. If you are going faster than that, please double-check your drone and make sure it's on default settings. Additionally, there should never be wind on any of the courses, so the wind should be at 0. If it is at anything higher than 0, please double-check the lobby settings.
5. The bottom middle shows the Start/Abort button for the race. Only the race host will see this button. Below the button, you will find the track name. Please make sure that the track is correct.
6. The bottom right shows the simulator match chat, the info of all racers in the race, such as racer names, laps, times, and the menu button.

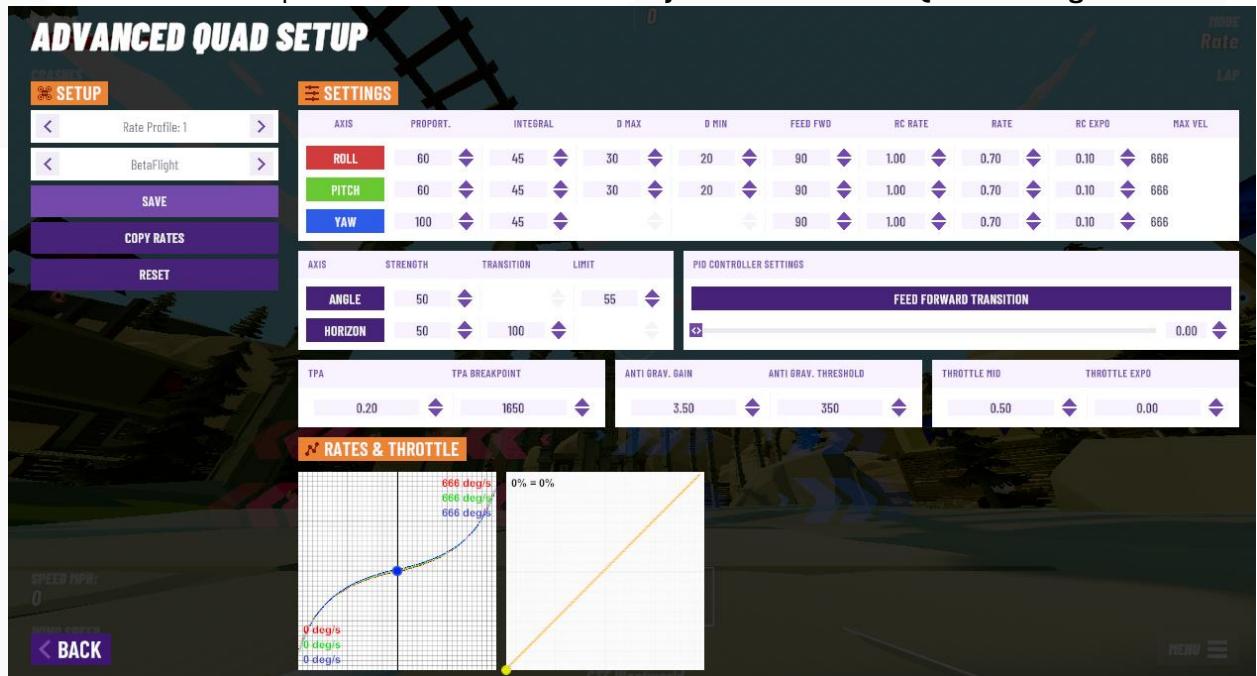




B. Multiplayer Menu (Single player menu looks similar)

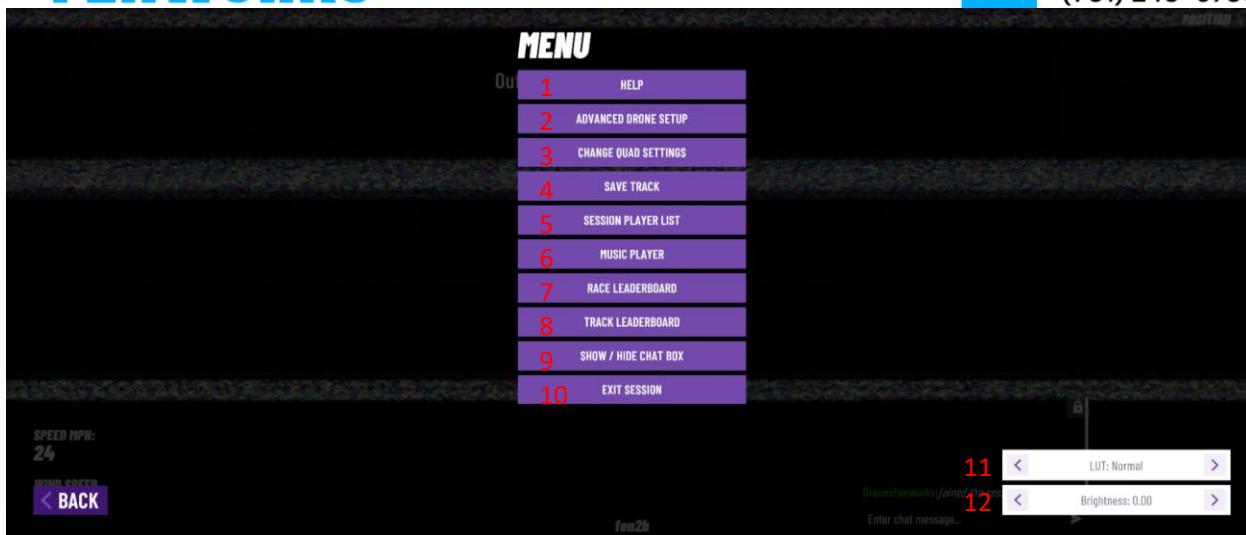
If you click the menu button, you can find a variety of useful tools.

1. Help: Please check here to see many of the keyboard commands.
- a. The main ones you will want to use are 1, 2, and 3. These change the mode the drone flies. All racers are allowed to fly using any of the 3 modes: Angle, Horizon, and Rate. Angle (1) is the easiest as it automatically self-levels itself. Horizon (2) is like Angle, however, it does less self-leveling than Angle. Rate (3) is the hardest as there is no self-leveling, allowing for full utilization of the drone controls.
2. Advanced Drone Setup: **Students are allowed to adjust the Advanced Quad Settings.**



3. Change Quad Settings: If you need to adjust your quad, you can click this to adjust the settings. You shouldn't need to use this.
4. Save Track: This allows you to save the track.
5. Session Player List: This will show all the racers that are in the race.
6. Music Player: If you want to adjust the music to their radio.
7. Race Leaderboard: This shows the times for the most recent race. **THIS IS THE PAGE TO SCREENTHOT** for proof of your race. After a race ends, the results will appear just for a few seconds. If you miss getting the screenshot, you can navigate to the Race Leaderboard to see the times and screenshot them. This will show ALL RACERS times and places.
8. Track Leaderboard: If racers choose to submit their times to the VelociDrone Track Leaderboard, their times will appear here. It is not required to do so. All scores must be submitted to the Fenworks Platform.
9. Show/Hid Chat Box: Click this to show or hide the chat box. It will adjust in real time.
10. Exit Session: This brings you back to the Main Menu.
11. LUT: All racers are allowed to change the LUT. Feel free to play around with these. The default is Normal.
12. Brightness: All racers are allowed to change the Brightness. Feel free to play around with these. The default is 0.00.





Section 4: Screenshotting Times

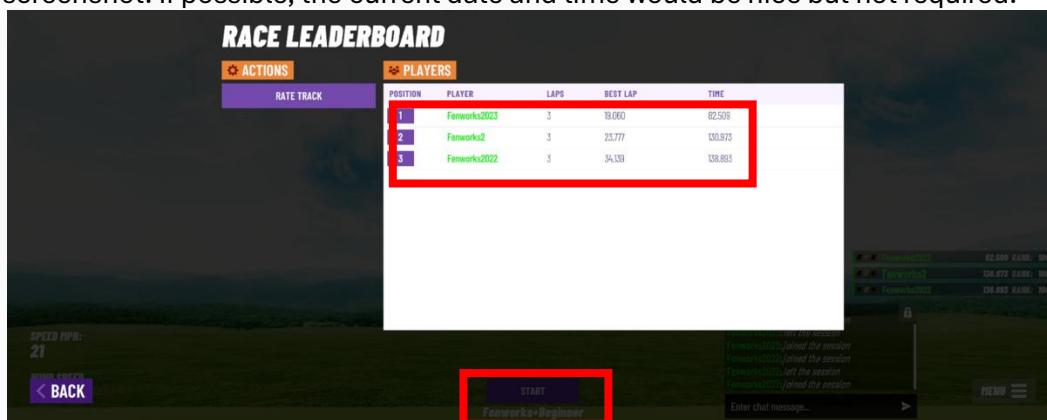
Make sure to screenshot the leaderboard after every race. You will need to upload them to the Fenworks Platform when you submit your scores.

Step 1: Finish a Race

Wait until all the players' scores are on the screen. Then, either using a phone or the computer screenshot ability, take a screenshot.

- Windows: Windows logo key + Shift + S OR click the PSC/PrtSc button (typically found adjacent to the backspace button)
- Mac: Command + Shift + 3

All screenshots must have the track name (shown faintly in the background), racer name, and total time in the screenshot. If possible, the current date and time would be nice but not required.



Step 2: Submit times to the Fenworks Platform

See this [guide](#) on how to submit guides.

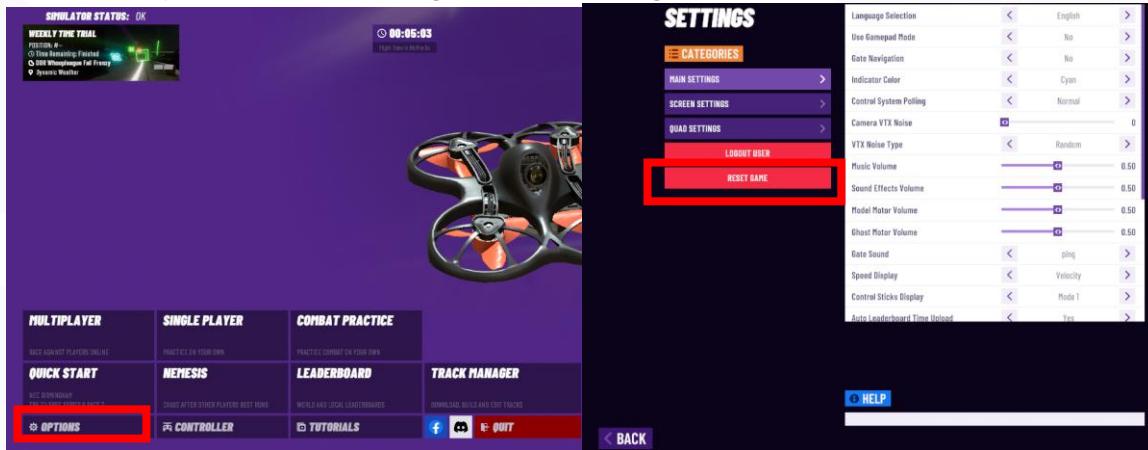




Section 5: Troubleshooting

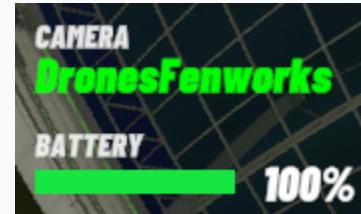
A. Resetting Your Game

Fenworks recommends resetting your game to the default settings if you are concerned about the settings. To reset a VelociDrone account, go to the main menu and click " Options " in the bottom left." Once you are in the options, then click "Reset Game." **Please note that this restarts everything, including deleting all settings, quads, and custom tracks. If you reset the game, you must edit any other manual settings, such as turning on Auto Leaderboard."



B. Battery Simulation in a Race

If you are getting battery simulation in your races, please go check that you set up the lobby settings correctly. Please see [Section 2, Step 6](#), for the correct instructions. There should be no battery simulation. If there is, it is likely that Single class got selected instead of Open Class.

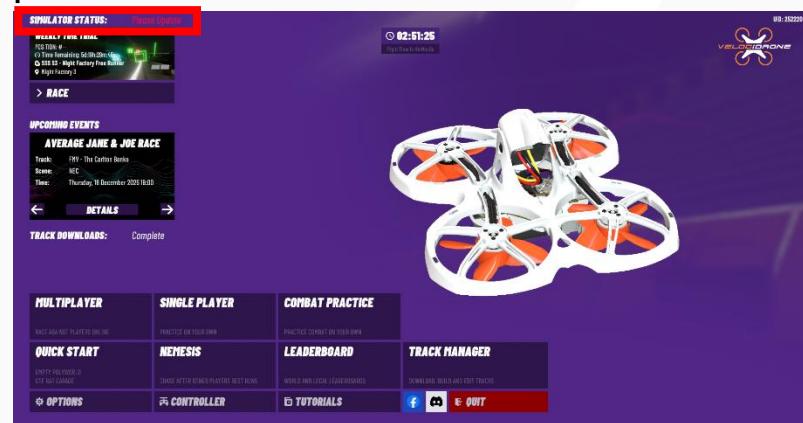


C. Simulator Connection Issues/Updates

If you are seeing in red "Please Update" on the main menu, you will need to update your simulator.

From your computer search, please open the "Launcher," not the "application". Unfortunately, there is no way to update the simulator once it is open.

Note: Please always launch VelociDrone from the "Launcher" and not the "Application" that it will create. The launcher will always give the option to check on updates, whereas the application won't. If you do not do these updates, the software will not work all the time.

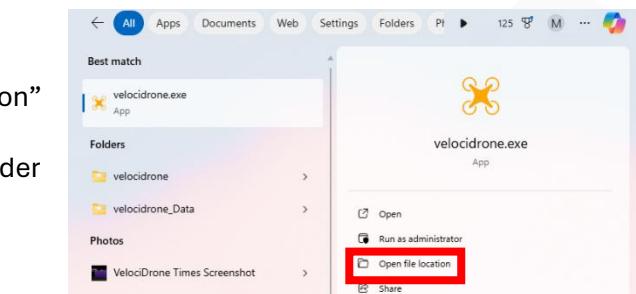
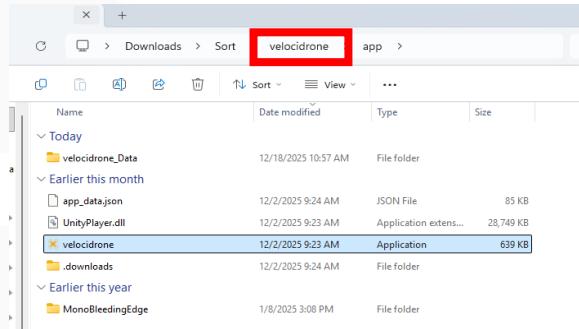




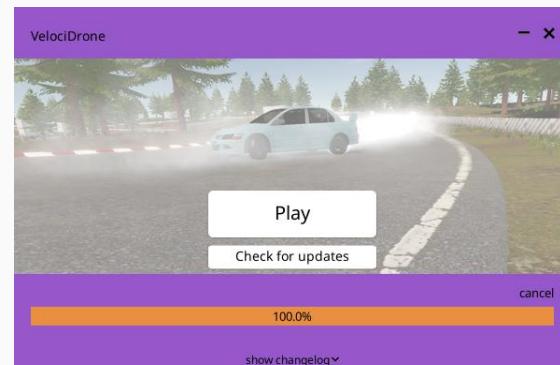
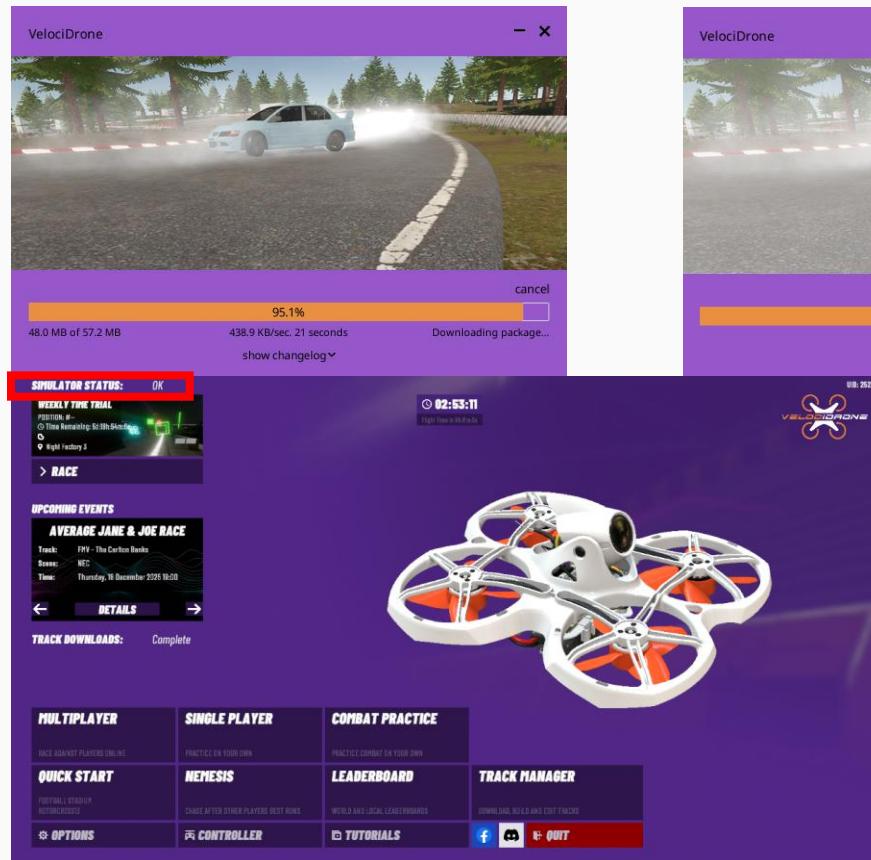
To do this, close the application. Search for your computer for VeloCiDrone. DO NOT click the app/application. Then click on “Open File Location”

If you don't see launcher, then click back one folder (might be titled “velocidrone”).

Then you should see the launcher. Click on it.



It should update automatically. I would recommend that you also click on “check for updates” to make sure it updated. Then launch again and the status should say “Ok.”





drones@fenworks.com
(701) 248-9786

D. Controller, Cord, or Computer Connection Issues

If for some reason your controller isn't connecting, feel free to follow the following steps as it could be either A) a controller issue, B) a cord issues, or C) a computer issue.

1. Check to confirm the controller is turned on.
2. Check the cord to make sure it works. Try the controller and cord with other controllers and cords and computers to determine if it's the controller, the cord, or the computer.
3. If it's the cord, replace the cord and everything should work again.
4. If it's the computer or controller, try resetting the game, and if that doesn't work, try and un-install the software from your computer. There have been instances where the software, when updating, corrupts some files and by fully un-installing the software back, it will work.
5. If after resetting and un-installing the software still doesn't work, please reach out to Fenworks or VelociDrone as we can try and support.

