User Manual

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**Getting Started**

After installing VelociDrone and before running it for the first time please make sure that any controller you wish to use is plugged in and functioning correctly. In the case of a USB controller make sure you have run the windows calibration for the device.

Start Velocidrone and go to the settings menu, then the controllers menu and set up your controller as per the documentation in the controller sections below.

Next in the settings menu set your preferred screen size and graphics preferences.

Once you have done this you can start a singleplayer or multiplayer session and start having fun racing.

Please note that camera angle is exceptionally important in how the model feels to fly. It is adjusted with the page up / down keys and in general a good degree of up angle is needed on the camera for effective speed and control when racing.

We hope you enjoy using our product for more specific information refer to the sections below.
Installing VelociDrone

VelociDrone does not need to be installed. It is supplied as a .zip or on OSX a .dmg file and it just needs to be unpacked to a suitable read and write accessible location on your hard drive.

It is up to you where you install it but there are places we don’t suggest you put it. On windows do not drag it to the program files directory as this is write restricted and will cause problems. On OSX do not drag the file into applications folder as on some OSX systems this can cause gatekeeper to quarantine the application. The OSX version of VelociDrone is apple certified and signed but regardless of this gatekeeper still seems to hold issue with it on some OSX versions.

If you move either .exe or the .app file to another folder on it’s own without the associated files it will break the functionality of the program, all the files need to be kept together.

When unzipping please use standard tools to do so, we are aware of issues with third party zip packages not unzipping the archive correctly and causing problems.
Purchasing and Licensing

Before you can use VelociDrone you must create an account and purchase a license from our website at http://velocidrone.com.

To create your account visit the website and click the Login button at the top right of the website. This will prompt you to enter in your details as follows:

![Register Form]

- Name - your full name
- Email - a valid email address, you will be sent a confirmation email to validate your account
- Password - a memorable password for logging into your account, must be greater than 6 characters.
- Confirm Password - must match what you typed in password
- Player Name - used to identify you in multiplayer sessions and on our leaderboard
- Birth Year - Not currently used but if the leaderboards become too full of the playstation generation then we may separate the leaderboards out into age ranges.

After registering you will receive a confirmation email with a link in it that you must click to activate your account before going any further.

Once your account is activated you may purchase VelociDrone. There are two options for this, the trial license and a full license. The trial will enable you to play VelociDrone for a limited number of days and may later be upgraded to a full license.

To purchase the license, click the add to cart button. If the license is a trial license then it will immediately be added to your “My Licenses” page. If it is a full license then you will be redirected to your cart as shown below.
Clicking Buy Now will take you through a standard PayPal checkout.

Once payment is complete you will receive an email from us and your license will be added to your 'My Licenses' page.

Sometimes PayPal may take a little while getting back to us although most of the time this is immediate, please be patient.

Once you have a license (test or full) you can start VelociDrone and enter in your registration details when prompted.

This will activate the VelociDrone on you machine and enable you to play.

If you would like to play VelociDrone on another machine you can visit ‘My Licenses’ on the website and click the “Unassign License From Machine” button. This will disable your current activation and enable a new machine to re-register the license.
General Settings

Multiplayer region:
Specifies what server you want to connect to for multiplayer. There are multiple regions designed to give you the best possible latency for you online gaming. Players connected to the European server cannot see sessions from users on the American server (for example).

Use Gamepad mode:
Alters the throttle curves to make the gamepad not be at half throttle when at mid stick (the default sprung position for a gamepad)

Gate Navigation:
Puts an overlay on the screen in race mode identifying where the next gate is as well as guidance arrows to navigate you to the next gate around the edges of the screen.

Camera VTX Noise:
Simulates video interference that you would see when flying a real quad with a video feed. For low specification machines we recommend turning this off by dragging the slider full left as it is a full screen effect and can cause a drop in frame rate. For normal users set this at a level you prefer the further you go to the right on the slider the more the interference will appear when you are flying.

Music Volume:
Adjusts music volume in menus and in game.

SFX Volume:
Adjust extra effects like button sounds volume.
**Model Motor Volume:**
Adjust the volume of the quad motors both in menu and in game.

**Ghost Motor Volume:**
Adjust the volume of the ghost quad motors in game.

**Gate Sound:**
The sound that will be played when you pass through a checkpoint gate successfully. This also has an option for no sound at all.

**Speed Display:**
Displays the speed of your quad as either maximum velocity or just ground speed. This is to allow emulation of OSD type displays that use GPS for speed display which of course is ground speed only.

**Controller Input:**
Select control input type.
USB for Gamepad and Transmitters with USB type connectivity or Audio for Transmitters with ppm Buddy Box output via cable into PC LINE IN or Microphone

**Control Sticks Display:**
The transmitter mode that will be used to display your sticks on the screen if you press M in flight mode. Options are mode 1 through mode 4.

**Auto Leaderboard Upload:**
When set to no you will have to upload your lap times to the leaderboards manually by pressing the upload button at the end of a race. When set to "auto" times will always be uploaded automatically.

**Lap Time Announcement:**
How your lap times will be announced by the built in voice announcement system.

**Single Player Race Countdown:**
Whether you will get 5-4-3-2-1, or 3-2-1 or no countdown at all.

**Multiplayer Voice Chat:**
Turn this on to allow your microphone to be used in multiplayer mode for voice chat.

**Selected Microphone:**
Select the microphone you wish to use for multiplayer voice chat (if it is turned on) from this list of connected microphones.

**Voice Announcements:**
Whether the inbuilt voice announcements will be used for your lap times and lap positions.

**Hide My ID from Friends:**
Whether you will be hidden from people when playing multiplayer. If people have added you as a friend then with this set on they will not be able to see you online in sessions.

**End of race statistics:**
How the end of race dialogue will be displayed.
Screen Settings

Auto Adjust Quality:
With this turned on VelociDrone will look at the minimum FPS you have configured and automatically raise or lower quality settings to achieve that FPS. When this is turned on VelociDrone will use any quality setting between fast and fantastic, it will not use fastest setting and if you have a low specification computer you should turn off auto quality and just set fastest manually.

Minimum FPS:
This setting is used by the Auto Quality function but it also applies when auto quality is turned off. Whatever you set here VelociDrone will try to achieve as a frame rate. This will only work with vsync off. Setting 9999 for this value will cause your video card to just run as fast as it can.

Quality Level:
Adjust the draw distances, shadow drawing, texture quality and so forth for the entire game. Fantastic has everything turned on and will require a more powerful graphics card (and looks the best), where as fastest will run on older and mobile type cards. There are a range of options here with quality improving as you work you way up to fantastic level (fastest, fast, simple, good, beautiful, fantastic).

Screen Resolution:
Sets your screen resolution. Remember that higher resolution means more pixels to draw and will need a more powerful card. If you are running at fastest level and need more performance then dropping screen resolution is a good option.

Fullscreen:
Fullscreen uses less power than windowed. Choose your preference.
Vsync:
When set to on VelociDrone will sync the FPS to the monitor refresh rate. Turn it off if you want to run faster than your monitor refresh rate.

Graphics Rendering Type:
For low specification machines this should be set to “Forward”. For high power gaming machines this should be set to Deferred.

Colour Grading:
Choose the LUT you wish to use to modify the colour output of VelociDrone. There are options in here that can change the vibrancy and colour of the output as well as provide options for colour blind customers.

Motion Blur:
This setting sets the computational complexity used to give motion blur (or turns it off entirely).

Motion Blur Amount:
This setting configures how strong the motion blur effect should be.

High Quality trees:
High quality trees require a good modern graphics card, mobile graphics cards or older cards should opt for not using high quality trees (the low quality ones still look very nice).

High Quality Water:
High quality water require a good modern graphics card, mobile graphics cards or older cards should opt for not using high quality water (the low quality water still looks very nice).

Fish Eye Camera:
Applies a fish eye effect to the camera to better simulate the lens effect of a wide angle FPV camera.

Dynamic Skies:
Select animated or static sky rendering. Static setting reduces CPU load.

High Quality Football Stadium:
Set his to yes to use the higher quality football stadium. Set o no it will use a football stadium more suited to lower specification computers.

Birds Butterflies
Whether to display birds and butterflies in the various available sceneries.

Hide Mouse Pointer
Automatically hides the mouse and side menus in flight mode after five seconds of inactivity of the mouse if set to yes. Menus and mouse will unhide if the mouse is moved. If set to no the mouse and menus will always be visible.
While our simulation can determine most of the parameters a quad is working with there are some which we cannot be sure about. These are usually due to variations from one quad to another. Your own quad may have different propellers or motors and different batteries perform in different ways. This panel will enable you to make small adjustments to the areas we believe make a difference to the way a quad feels.

**Drag Front:**
Adjusts the aerodynamic drag contribution from the front of the quad.

**Drag Top:**
Adjusts the aerodynamic drag contribution from the top of the quad.

**Drag Side:**
Adjusts the aerodynamic drag contribution from the side of the quad.

**Frame Lift / Downforce:**
Adjusts the aerodynamic lift contribution from the quad's frame as its attitude changes relative to its direction of travel. In normal forward flight the quad will have a nose down attitude which is a negative angle of attack and will therefore produce some down force. A quad is not a particularly efficient wing so the negative lift (downforce) is not very large but is evident.

**Camera Field Of View:**
Horizontal field of view of the quad camera. 115-120 is what most pilots prefer.

**Camera Angle:**
The up tilt on the quad camera in degrees so that when flying in fast forward flight you aren't looking at the ground.
**Propeller Power:**
Adjusts overall power produced by the props due to their overall efficiency.

**Min Throttle:**
Adjusts minimum motor rpm. The values shown relate to the throttle values 1000 closed - 2000 full.

**Quad Weight:**
Adjusts total weight of the quad.

**Propeller Size:**
5045, 5040, 4045 or 4040. These sizes denote 5.0" prop with 4.5 inch pitch (5045) as an example.

**Camera Angle Compensation:**
Introduces an interaction between the Pitch and Roll angles which give the quad a more Aeroplane flight feel.

**Flight Controller:**
Selects simple legacy flight controller or a more capable BetaFlight flight controller.

**Quad Rear Spotlight:**
Whether quads have a light on the back illuminating the scenery from the LEDs. Turn this off on low spec machines,

**Low Detail Quads:**
Time Attack quad and Multiplayer quads are displayed as low detail models.

**Allow Mid Air Collisions:**
Prevents inter model collisions during Multiplayer racing.

**Trails Enabled:**
Whether quads will have a light trail in single and multiplayer.

**Battery Simulation:**
Whether the lithium battery simulation is active or not in flight mode.

**Quad Audio:**
Whether you hear the sounds of your quad as if the audio is onboard the quad or whether the audio is heard from the point of view of the start grid position.
Configuring Controllers

Velocidrone needs to know which controller you will be using and how it is setup.

We support any tx that can output all of it’s channels over a USB connection. Additionally over a wireless connection using a Teensy 3.2 board we can support any tx that can send output to an SBUS, DSM2 or DSMX receiver.

We also support some transmitters with a standard buddy box output**. Simply connect your Tx Buddy Box output using a standard 3.5 mm stereo lead to the your sound card ‘Line In’ or ‘Microphone’ input. Then select the sound card in the ‘Input Mapping’ on the Settings Panel.

** Whilst we support buddy box PPM output to a mic or line-in port, it is not something we recommend. PPM input is latent, suffers from control drift and is much less reliable than a USB based input through a dedicated USB dongle. In all cases we recommend using USB over using direct audio input - whether that be via our own solution or via vjoy / smartpropplus. Also be aware that windows systems have noise cancelling on mic input by default and this should be disabled for mic input to work.

RC transmitter with a standard buddy box output:

1. Make sure your controller is installed.
2. Select control input type ‘Audio’ on the General Settings panel.
3. Select the following panel, ‘Mic Controller Setup’ on the General Settings panel.
4. Select the Input Mapping for the audio input device you have plugged the tx cable into.
5. Start the ‘Setup Wizard’.
6. Follow the wizard’s instructions.
7. When the wizard is complete the quad in the top left hand corner of the panel should move as you would expect when you are moving your controller inputs. The direction of the slider bars is
not important. They may or may not be reversed. The direction the quad moves is the important thing.

When you are finished setting up your controller use the ‘Back’ button to return to the main menu and all your settings will be saved.

Note: A standard ‘Gamepad’ has a spring to centre on all axis which is not ideal for Thrust control. We therefore recommend using the throttle curve feature to tune the response of the Thrust axis which will help make this control less sensitive.

**Taranis Configuration for use with Velocidrone**

The Taranis radio can connect to windows as a USB device but in it’s default configuration it will not work correctly. Make sure you have set up your Taranis in MultiRotor mode and that you have turned off it transmitting when connected via USB as there is no need for it to transmit to work with VelociDrone.

Next you need to go to the Inputs screen as shown below ..

**Input Screen**

You need to select each of the channel and configure as per the screenshot below.
Each individual channel should be configured as follows (example for throttle):

**Input curve**

In VelociDrone there is no need to set weight and offset these should be left at defaults with the input curve running from -100 to +100.
On your mix screen you can configure each mix to just pass through. For example on throttle:
For the switch for starting and stopping a race configure input as follows (exactly the same as throttle):

![Image of a digital telemetry radio system configuration screen]

This is all very basic with no real configuration to do. Just set up each of your channel inputs and mix outputs as per defaults.

**USB configuration system**

See the following playlist for USB system setup:

[USB Controller Setup Playlist](#)
User Interface

The following sections deal with the user interface for VelociDrone.

Cameras

There are multiple cameras within VelociDrone that can be selected via keyboard shortcuts. There are cameras that will focus on your specific model as well as cameras that can focus on other players models. Let us deal with cameras for your own model first.

When flying your own model you can choose to have a line of sight camera or a first person view camera.

![First Person View Camera](image)

By default when you join a scene you will initially see where your quadcopter is placed on the field and then automatically be put into first person view. First person view is where you are looking through a camera that is fitted to your model, therefore this camera looks like you are flying the model whilst sat on it.

By pressing the F key you can switch between first person view and line of sight view. In line of sight view you are looking at the model as if you are standing on the field and the model is in front of you. The line of sight camera will automatically track the model as well as zoom in and zoom out depending on how far the model is from the camera.
Line of Sight Camera

When a race is started your model is automatically switched to first person view for racing.

Additional to the line of sight and first person view cameras there are also spectator view cameras. These are cameras that are placed in strategic positions around the scenery and will follow your quadcopter as you fly it around. You can access the spectator camera mode by pressing the S key. Each time you press the S key it will swap between the various available spectator cameras. When you wish to go back to line of sight or first person view cameras then you can do so by pressing the F key.

Multiplayer Cameras

VelociDrone also provides facility in multiplayer modes to view other players models in line of sight, first person view and spectator modes. If you are in first person view or line of sight view then you can switch camera to another player by pressing the spacebar. The spacebar will cycle through all of the players in the current session including yourself. You can always get back to your own quadcopter camera by pressing the F key. If you are in spectator mode (by pressing the S key) then you can cycle through other players by pressing the spacebar.
Spectator Camera

The camera of the person you are viewing will be indicated at top left of the screen where your player name is usually displayed.
The menu system in VelociDrone is very straightforward. There are five buttons on the main menu four of which lead to the various sections of the game and the fifth allowing you to quit the game. The "multiplayer" button allows you to select to host or join a multiplayer game. The "single player" button is for time attack, race practice and setting times on the leaderboards. The "track editor" button allows you to author or edit your own custom tracks. The "settings" button allows you to configure the simulator from a graphical perspective as well as for setup of your specific controllers.
When you go into multiplayer or single player modes one of the actions you will have to perform is to select the model that you wish to fly. Model selection is very simplistic in that you will be presented with a picture and name of a model and you can simply click the left and right buttons in order to scroll through the various available models. Once you have picked the model that you wish to fly you can move on to scene selection and track selection.
Scene/Track Selection

The scene, track and laps selection functions differently depending on what mode you are in. The above picture is for single player mode and in this mode you can select the scenery that you wish to fly on, the track you wish to fly on that scenery and the number of laps that you would like the race to contain.

Additionally you can configure the race mode and race format. See the description of these modes later in the manual.

In single player mode when you press the select scenery button you will immediately go into the scene and be able to race. The process is slightly different for other play modes.
If you are hosting a session then you will go through the screen below:

Scenery selection when hosting a race

In this instance you select the scene and track but there is no option to select the number of laps. The laps for a multiplayer hosted session are set on the hosting screen (covered later in this manual).

Again you can see the Race Mode and Race Format and these are covered later in the manual.

If you are joining an online session then you will not select the scenery, track or number of laps as these will be sent to you over the network by the session host.
Single Player

Single Player allows you to practise and improve your flying abilities, whether you prefer to fly freestyle or race for the fastest lap time. You can even race against yourself!

Time Attack

Time attack allows you to race against your own fastest lap of that session. This gets you into the competitive zone that racers get into whenever they fly but also sets you on a path of improvement. Racing your ghost in Time Attack allows you to see your previous mistakes, make alterations to your flight paths and see whether you can beat your ghost.

Time Attack can be enabled and disabled by pressing the following icon in flight mode:

![Time Attack Icon]

Racing

At any time in single player mode you can enter a single player race with no distractions other than yourself by clicking the race button.

Racing can be enabled and disabled by clicking the following icon in flight mode:

![Racing Icon]

Leaderboards

VelociDrone wouldn’t be complete without leaderboards. After completing a race you have the option to log your times for others to see on the leaderboards. Simply click the button and then brag to your friends about it!

![Leaderboard]

Upload button for best lap time
Multiplayer

VelociDrone supports racing online for up to 7 players in a session. Anyone can host a session and sessions are open to all owners of VelociDrone.

The host of a session just owns a “room” on one of our professionally hosted servers. Players always connect to our professional online servers with the “host” just controlling the session rather than actually hosting it on their own machine / broadband connection.

Joining a Session

The interface lists the available sessions that you can join. The information shows the scenery name and the track name and how many players are currently within the session. The Race Manager is also listed plus the number of laps they are currently doing per race.

There are many session servers across the world and you will need to select the one that is nearest to your area for best performance. Select your region server using the Display Sessions for region field.

If you wish to join a session just click the Join Session button (providing the session isn’t already full). If you wish to host a session just click the Host Session button.

A session can be started by a Race Manager as a secret Session. These sessions are not shown as publicly in the sessions available panel. To join one of these sessions you will need to enter the name of the session in the Join named session on this region field.
Hosting a Session

Hosting of a session involves just selecting the starting scenery / track that you wish to host and the number of laps. Once the session is created the host is the race manager and controls all of the racing, starting/ stopping races, changing scenery / tracks and having the ability to control who is in the session.

Any hosted session is advertised to all other players on the ‘Join’ menu in VelociDrone if the seeion is started with the Start Normal Session button.

Sessions started with the Start Hidden Session button are not displayed publicly. This enables you to race with others by invitation.

Session names must be unique so please change the default session name to something unlikely to be used by other session hosts. If you create a duplicate session you will be notified and the hosted session will fail.
**Race Manager Controls**

As a host of a session you are the Race Manager. This provides you with certain privileges which are as follows:

- Change scenery
- Change track
- Change race lap count
- Start races
- Abort Races
- Kick troublesome players

Changing scenery/track/lap count is all done through the same in game dialog and accessed via the icon pictured above in the buttons sidebar.

The in game dialog functions exactly the same as the main menu in that you select the scene / track, race mode, race format and lap count that you wish. You don’t need to change all of them, you can just change the number of laps or the track in the current scenery. All players in a session with you will automatically change to match.
Race Modes

Races can be run in 2 different modes each with 2 different classes.

**Race Mode**
Crashes are not penalised. Competitor allowed to continue in the race.

**Event Mode**
Crashes result in competitor being red flagged at next gate and removed from the race. Competitor can continue flying and will be prevented from colliding with other competitors.

**Open Class**
All quad setup parameters are allowed.

**Single Class**
Drag sliders are all set to a single defined level for all competitors in the session. Battery simulation is forced on. PID controller settings are allowed and all other quad modifications are allowed.

Race Formats:

**Fastest time:**
The one who finishes the set laps in the fastest time is the winner.

**Laps in two minutes**
The one who completes the most laps is the winner. If two or more players complete the same number of laps then it’s the fastest time to complete those laps that wins.

Starting and aborting races is done by pressing the flag icon above. Once pressed and a race has started the icon will change to the following:

Pressing the button when in this state will abort a race.

The Race Manager is responsible for controlling the players in the session and can access the player list using the player list button in the sidebar:

This Button opens the player list dialog. For players who joined the session they can also access the player list but they cannot access the buttons to kick players from the session. The kick button is provided to allow Race Managers to remove problematic or abusive players.
As a race manager all of the above is the additional functionality provided over and above what you get as a player who has joined a session.
If the Race Manager leaves the session or has an unfortunate loss of internet connection then a race manager migration will occur. VelociDrone will pick a new race manager from the remaining players and notify them as above that they are now the new race manager. When this happens any race currently in progress is aborted and the session will migrate to a known state, this involves loading the pylons track and establishing the new race manager with the controls they need to run the session.

If the old race manager rejoins the session they will just be an ordinary player and the new race manager will maintain control of the session.

**Track Sharing**

Track sharing in VelociDrone is automatic or viral as we like to call it.

If you create a new custom track in the track editor and then host an online session on that track then anyone joining your session will automatically be sent your track over the network when they join. So effectively you can race on the new track straight away without ever having to do anything other than start a session with that track loaded. You could also change to that track within a session and similarly it will just be sent over the network to the players in the session.

If you join a session and get a new track that you like then you can save it for playing on later or for hosting with other people.

The save button in the sidebar allows you to save a track and give it a name of your own. You can even save the official tracks supplied with VelociDrone so that you can edit or modify them to create different versions without having to start from scratch.
Chat

Chat Box

The chat box can be accessed by pressing the C key but by default will be shown in multiplayer sessions and hidden in single player sessions. The C key toggles its visibility on/off.

You can click in the input field and type your message for all other players to see, receive responses, session information (joiners / leavers). There is a scrollbar to look back through the chat and also a resize tab top left to change the size of the chatbox. You can also click on the top of the chatbox and drag to move it around the screen to a position of your choice,
Track Editor

Track Editing Selection

The initial screen shows you your custom tracks (if you have made any) plus offers the options of deleting, renaming or editing further and already created track.

Alternatively you can click create new track to start on an empty fresh scenery.

Editing a Track
Track Editor

Once inside the track editor the track editing interface becomes available. This is one of the more complex areas of VelociDrone and as such we have made a playlist of tutorial videos on how to use the track editing functions:

Track Editor Tutorial Videos Playlist

Import Track
The track editor is able to export any track you have developed. Use this button to import a track exported by the track editor.
Model Setup

The model setup dialog is accessed from the side button:

This dialog is dependent on the ‘Flight Controller’ you have selected in the ‘General Settings’ panel.

Legacy Flight Controller:

![Legacy Flight Controller Dialog]

Legacy Flight Controller Dialog

Once in model setup you are presented with a tabbed panel containing all the setup information for the currently selected model you are flying.

Each TAB provides different elements of setup.

The basic tab contains rotation rates, exponential settings and so forth. Additionally tending on what bank you have selected you may have other settings you can adjust such as maximum angle (attitude / rattitude modes) and crossover point (rattitude mode).

If you want your quad to roll / pitch faster then increasing the rates on the basic tab will achieve that. Exponential changes how the sticks feel (soft control in the middle moving to faster control towards the extremes).

The angle setting controls how far the attitude mode will allow you to roll / pitch before it limits the rotation of the model.

The crossover point changes where the rattitude mode changes to rate mode based on control stick offset amount.

Any changes you make in this dialog are updated instantaneously to the model but will not be saved unless you click the save button.
BetaFlight 3.0.1:

The performance of the BetaFlight Controller is identical to the popular controller of the same name used by many experienced FPV pilots. This dialog controls all the same settings found on the real device. You should refer to original BetaFlight documentation for details of the settings. These documents can be found at:  https://github.com/betaflight/betaflight/wiki
Bank Selection

Bank Display

The bank selected is what mode your quadcopter is running. There are several provided and can be changed by pressing the numbers 1 through 4 on the keyboard or left click on the Bank: display box.

**Angle:**
Self levelling mode, not really ideal for fast racing but good for beginners to get acquainted with the controls.

**Horizon:**
Self levelling but at 80% of stick throw the self levelling deactivates, allow flips / rolls etc.

**Rate:**
Generally what is used for racing, no self levelling at all.

**Acro:**
For aerobatics, much faster roll / pitch rates are available in Acro mode.
We do not recommend playing with PID settings unless you know what you are doing and understand PID controllers.
There are many tutorials online regarding PIDs we recommend reading through one of these before attempting to adjust the VelociDrone models settings, it is very easy to get it in a mess and ruin the flight dynamics. By default all the models come with a setup that is race ready, it can be tuned to taste of course but it should not need much tweaking.

Throttle Curve Adjustments

Change how the throttle comes in based on your stick position. This can be very useful for tuning gamepads where you may want to fine tune the sprung loaded centre position of the gamepad to allow the quad to be falling gently rather than half throttle.
These settings allow you to adjust the PID settings based on throttle position. In general you want to reduce the rates with higher throttle and possibly increase them a little at lower settings. TPS / TPA is a complex area and again we recommend reading up about this online before attempting to change it significantly.
Keyboard Shortcuts

VelociDrone features many keyboard shortcuts to help you get things done quickly. These shortcuts differ between the different modes that VelociDrone can be in. The following sections describe what these shortcuts are.

General Shortcuts

These shortcuts are only operational in flight mode.

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<th>Function</th>
</tr>
</thead>
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<td>ESC</td>
<td>Opens the Menu</td>
</tr>
<tr>
<td>B</td>
<td>Recharge battery</td>
</tr>
<tr>
<td>F</td>
<td>Switch between FPV and Pilot views</td>
</tr>
<tr>
<td>1,2,3,4</td>
<td>Select the bank flight modes</td>
</tr>
<tr>
<td>Pg Up / Pg Down or -/+</td>
<td>Adjusts the FPV camera angle Up / Down</td>
</tr>
<tr>
<td>Home or +</td>
<td>Reset camera angle back to 0 degrees</td>
</tr>
<tr>
<td>R</td>
<td>Reset your model to the last gate / or start position</td>
</tr>
<tr>
<td>End or \</td>
<td>Takes a screenshot to My Documents folder</td>
</tr>
<tr>
<td>T</td>
<td>Trails On / Off</td>
</tr>
<tr>
<td>H</td>
<td>Horizon Line On / Off</td>
</tr>
<tr>
<td>C</td>
<td>Show / Hide chat</td>
</tr>
<tr>
<td>S</td>
<td>Cycle through spectator cameras (when in pilot view)</td>
</tr>
<tr>
<td>Spacebar</td>
<td>Cycle through other player's FPV cameras</td>
</tr>
<tr>
<td>P</td>
<td>Toggle race leaderboard</td>
</tr>
<tr>
<td>Insert / Delete or []</td>
<td>Lower / Raise Field Of View in FPV mode</td>
</tr>
<tr>
<td>0 (zero)</td>
<td>Toggle UI On / Off</td>
</tr>
<tr>
<td>V</td>
<td>Set Field Of View to default in FPV mode</td>
</tr>
<tr>
<td>A</td>
<td>Start / Abort Race</td>
</tr>
<tr>
<td>F12</td>
<td>Show FPS monitor</td>
</tr>
</tbody>
</table>
**Track Editor Shortcuts**

These shortcuts are only operational when in the track editor.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Move tool</td>
</tr>
<tr>
<td>E</td>
<td>Rotation tool</td>
</tr>
<tr>
<td>R</td>
<td>Scale tool</td>
</tr>
<tr>
<td>F</td>
<td>Focus on selected object</td>
</tr>
<tr>
<td>Alt + Right Mouse Drag</td>
<td>Rotate around focused object</td>
</tr>
<tr>
<td>Middle Mouse Press and Drag</td>
<td>Pan view</td>
</tr>
<tr>
<td>Middle Mouse Scroll</td>
<td>Zoom in / out</td>
</tr>
<tr>
<td>Delete / D</td>
<td>Deletes the selected object</td>
</tr>
<tr>
<td>Ctrl + Shift + Z</td>
<td>Undo last change</td>
</tr>
<tr>
<td>Ctrl + Shift + Y</td>
<td>Redo last undo</td>
</tr>
<tr>
<td>L</td>
<td>Local space gizmo</td>
</tr>
<tr>
<td>G</td>
<td>Global space gizmo</td>
</tr>
<tr>
<td>P</td>
<td>Toggle pivot between object center or origin</td>
</tr>
<tr>
<td>Home</td>
<td>Move camera to home position</td>
</tr>
<tr>
<td>Arrow Keys</td>
<td>Fly camera</td>
</tr>
<tr>
<td>Shift + Arrow Keys</td>
<td>Rotate camera</td>
</tr>
<tr>
<td>Ctrl + Up / Down</td>
<td>Raise / Lower camera</td>
</tr>
<tr>
<td>O (letter)</td>
<td>Toggle Orthographic / Perspective views</td>
</tr>
<tr>
<td>Ctrl + Left Mouse Button</td>
<td>Multiple Placement of the Same Object</td>
</tr>
<tr>
<td>(Object Placement)</td>
<td></td>
</tr>
<tr>
<td>Ctrl + Left Mouse Button</td>
<td>Multiple Object Selection</td>
</tr>
<tr>
<td>(Object Selection)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Toggle extra light in dark sceneries</td>
</tr>
<tr>
<td>N + LMB</td>
<td>Display 1 meter grid on terrain</td>
</tr>
<tr>
<td>M</td>
<td>Hide grid</td>
</tr>
<tr>
<td>Dot key</td>
<td>Align selected object with terrain.</td>
</tr>
</tbody>
</table>