



Drone Rules

Pilot Basics

- Fly only in designated areas.
- Fly only at appropriate times.
- Only power up your multirotor / video transmitter while in the Start/Finish area on the course. DO NOT power up in the pits or while walking from the pits to the course. Let others know by yelling you are powering up.
- If you need to check your video channel or change frequency, this MUST be completed between heats and no one is flying. You MUST also ensure you have the appropriate Frequency Assigned to you for the frequency you wish to check.
- You MUST ensure you have a Spotter in the Pilot Area while flying at all times. A Spotter observes the course for dangers such as members of public, other model fliers. Spotters stand in the Pilot Area to ensure clear communication including counting laps and verifying gates and flags are not missed.
 - You are required help with spotting for the heat before yours.
- Pilot Jumps the Gun / Starts Early - Pilot will lose 1 Lap.
- Aircraft does not take off - Pilot Out of Race, No Rerun.
- Aircraft flips - No Rerun.
- Crash into other aircraft and unable to recover - Official Ruling - OUT, No Rerun.
- Pilot loses video due to someone else plugging in and this is proven via DVR - Rerun
- Pilot Loses Video for Unknown Reason during race - Out, no rerun
- When finishing a race, land ON the course. No victory laps. Pilot will be penalized one lap point per victory lap
 - No victory laps! When the race is over, complete your current/final lap and immediately land in the dedicated landing zone. Points will be deducted for victory laps as this confuses spotters, slows down other racers not yet completed the race and may cause crashes.

Race timing between heats

- Standard races will have max time between heats. Basic 5 heat race will have a **2** minute max between heats including a 1 min. remaining warning. If you are not ready to race within the 4 min., race will start without you and you forfeit the heat.
- If a race has less than 3 heats per round, max race timing between heats will increase to no more than 10 min. between heats and as per the discretion of Race Director
- Time is max time, so if all pilots in the heat are ready, race will start sooner.

Race Spotting

- Each pilot is **required** to spot for the pilot before his heat that is assigned the same assigned channel
- Spotters are required to count laps and verify gates and flags are not missed.
- If there is not a pilot slotted to race in the heat before pilots race, pilots are required to spot for the pilot in the proceeding heat and so on.
- If pilot is unable to spot, the spotting pilot is required to find a replacement before the race starts
- If spotting pilot fails to spot or find replacements, spotting pilot will forfeit all lap points from previous heat or per the discretion of the Race Director if spotting has not informed the Race Director of the situation.
- Race Director has final authority to direct race spotters and or deduct lap points.
- Race Director has the discretion of taking the spotters word if spotter sees a missing gate or flag and the pilot must show DVR proof if he disagrees with spotter.

Leaving race early

- No pilot shall leave a race before it's over*. If a pilot leaves a race early, all times and points will be forfeited for that race.
- If a pilot request to leave as to emergency or other issues, the pilot must get final approval from Race Director and help Race Director, locate placement spotter if pilot has the time as to the Emergency.
 - * Remaining present until the end of the race is only fair to the other pilots as to the spotter requirements.

Aircraft damaged / Not able to race

- If a Pilot notifies the Race Director prior to the start of the heat that he cannot race, the race director can bump the pilot to a new heat for reruns. Race Director can deny request for any reason. Pilots will get no more than one of these type of reruns.

Missed gate or Flag

- Pilots must fly through all gates. If a gate is missed, it is the responsibility of the pilot to safely taxi around (please avoid oncoming drones) and hit the gate.
- If a pilot misses a gate or cuts a flag turn, that run is disqualified and the pilot receives a DNF for that heat.

Disputes

- Occasionally a pilot may request a rerun (like in the event of losing video). The Race Director is the final authority of all such disputes.
- Race Director has full authority to deduct points and times for full race and race series per abuse of all rules and un-sportsmen like conduct

Race tie breaking rules

- Fastest overall time from all heats wins tie.
- Pilot with Transponder wins over Pilot Without Transponder
- If both Pilots do not have a transponder, one more extra tie breaking heat will be run until higher points from that one heat wins the tie. Extra heats will be run if ties remain until tie is broken.
- If pilot has a working transponder but it broke, that pilot falls into the category of a pilot without a transponder if a replacement can not be added to quad. (not used for Fastest Lap format as you may still have lap times)
- If a full run or more is missing from a pilot with a working transponder, those rounds will be added in as average time from other rounds that are recorded. (not used for Fastest Lap format)•If a pilot with a working transponder has no recorded times, that pilot falls into the category of a pilot without a transponder.
 - *Race Director and/or Race Host has the option to substitute Overall heat time, with one fastest lap time for race tie breakers

Races without a timing system

- Tie determined by extra one-on-one run-off heats as required for points

SPECTATORS & PIT CREW:

The event is fun to watch and discuss. However, please stay away from the pilots within the Pilot Area while they are flying (unless you are acting as a spotter). Clear communication is essential with the pilots for accurate lap scoring, penalties and hazard warnings.

Join the Races at:

<http://www.multigp.com/chapters/view/ThatDroneShow>

Racing Drone Specifications

Frame

- 220mm Maximum

Propellers

- 4 inch Maximum

Battery

- 4 Cell Maximum

Video Transmitter (VTX)

- 5.8g
- 25mw Maximum
- 32 Channel Minimum
- Capabilities to change channels easily

Video Antennas

- Recommended to have Right Hand and Left Hand available

Fail Safe

- Must have fail safe enabled.
 - With craft armed, turn off radio and craft must deactivate in less than 5 sec.

Transponder

- Transponder Required in conjunction with spotters
- Race Transponder shall be **Trackmate Quadcopter Transponder** (Mounted, pointing to left side)
 - May be purchased at: <http://www.multigp.com/shop> or <https://www.trackmateracing.com>
 - iLap will not be used and cannot be used

LED Lighting on quadcopter recommended and requested for indoor racing

Safety & Specification Check

(Propellers must be removed before safety check)

- Failsafe Operational
- Video Transmitter set to 25mw Max
- Frame size and Propeller size verification
- Signed Waiver For FPV Racing
 - <https://drive.google.com/file/d/0BxRbCdCm27o1UWFZTjRXOG9FdDg/view>

Video Frequency

(IMD 5)

Five Pilots per Heat maximum

- E2 = 5685 (Boscam)
- F2 = 5760 (Fatshark / Airwave)
- F4 = 5800 (Fatshark / Airwave)
- F7 = 5860 (Fatshark / Airwave)
- E6 = 5905 (Boscam)

Tiny Whoop™ Drone Specifications

Drone Frame

- Horizon Hobby® Blade Inductrix stock and/or custom
 - Aluminum and Carbon Fiber allowed
- Must include Propellor Guards

Propellers

- Stock, Unmodified

Battery

- 1S, 210mAh Maximum

Video Transmitter (VTX)

- 5.8g
- 25mw Maximum
- 32 Channel Minimum
- Capabilities to change channels easily

Video Antennas

- No Restrictions

Motors

- No Restrictions

Flight Controller

- No Restrictions

Transponder

- No Transponder. Laps per spotters

Safety & Specification Check

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Race Format (Tiny Whoop)

- Fixed Time : 1 minute heat.
 - Finish last lap after timer finish.
- Completed Laps counted, 1 Point per lap
- Finish last lap after timer sounds and count if finished
- Winner is most accumulated laps for all rounds
- Three Rounds
- Round 1, Practice (more if time allows)
- Round 2 & 3, Race

Race Format (Drone Race)

- Practice
 - 1 to 2 Rounds (as time allows)
 - Fixed Time : 1-1/2 minute heat.
- Race
 - 3 Rounds (4 if time allows)
 - Fixed Time : 2 minute heat.
 - Final round, Top 10 accumulated point pilots only
- Finish last lap after timer finish.
- Completed Laps counted, 1/2 Point per lap
- Finish last lap after timer sounds and count if finished
- Winner is most accumulated laps for all rounds

SoCal Maker Con 2016 is the Qualifier for the International Drone Expo 2016

SoCal Maker Con 2016 is limited to 60 pilots. 30 pilots will qualify to the International Drone Expo 2016 with 5 points given to use at the International Drone Expo 2016 for all qualified pilots from the SoCal Maker Con 2016.

International Drone Expo 2016 will be limited to 60 pilots and Points for race will start at 0 for all pilots that have not qualified from the SoCal Maker Con 2016 and race points will start at 5 for all pilots that have qualified from the SoCal Maker Con 2016.