



ASOCIATIA ROMANA DE AEROMODELISM

**Regulations & Schedule of the Liberty Multirotor Racing 2019
Competition
- date 7th – 8th September 2019 –
Classes 200-250**

SCHEDULE FOR PILOTS:

Saturday 08:00 – 22:00

08:00-09:00 – Arrival of the organisers/guests/pilots and accommodation to their designated area (connecting chargers, pilots tables, settings etc).

09.00-10:30 – Technical meeting in the conference room: Presentation, role of the personal who will take care of organising the event, presenting the following rules, signing the declaration of own responsibility, setting video frequencies, checking the multirotors for the specified requirements, failsafe and the other necessary adjustments, finishing the track installation if it is the case.

10:30-14:00 – Multirotor Racing competition training.

14.00-15:00 – Lunch break

15:00-17:15 – Multirotor Racing competition qualifications.

17:30-19:00 –Freestyle open on the track (if the qualifiers are ready)-this will be announced by the organizers through the microphone.

19:00-22:00 – Discussion, opinions, suggestions, sharing experiences.

**** If the track is lit and the conditions allow it, the pilots who have enough LEDs on their multirotors and FPV cameras which are suitable for this scenario, they will be able to fly on the track without recording official results.*

Sunday 08:30 – 17:00

08:30-09:00 – Pilot briefing

09:00-12:00 – One training round + Multirotor Racing Competition qualifications.

12:00-13:00 – Lunch break

13:00-16:00 – Main Event: Multirotor Racing Competition.

16:15-16:45 – Award Ceremony.

*****NOTE:** We mention that changes might occur in the programme, which can lead to certain parts of the itinerary becoming shorter or longer. We will try to adhere to the set schedule but if necessary, the organisers maintain the full right to apply changes supporting better event progress.



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REGULATIONS

1. GENERAL RULES:

1.1 Before each round, the pilots who will fly are announced, as well as the next 4 ones, who are preparing for the next flight. Pilots preparing for the flight (from the moment the previous race is finished) have 2 minutes to set their multicopter on the stand and get ready to start the round.

In the event that one or more pilots can't do so in the given time period, he/they miss the round. The rounds in the Main Event are an exception to this rule and the pilots will be offered extra time, as allowed by the schedule.

1.2 The start of each round will be visually and acoustically signalled with the use of a traffic light (Red/Yellow/Green) and the use of sound signals (3 short signals followed by 1 long one).

1.3 In the training and qualify stages, the round will repeat if 3 out of 4 pilots don't pass the first gate.

1.4 In the Main Event Stage, if both pilots don't pass the first gate, the round will repeat.

1.5 In order for the LAP to be considered valid, the pilot must attack the gate or the flag on/coming from the set direction. The angle at which the pilot decides to attack the obstacle is not important, as long as the pilot passes through the gate correctly or has the flag in sight so that the referee can confirm he is following the designated track (flight above the obstacles will be penalized according to the rules of each phase).

1.6 The moment the pilot crashes the multicopter and can't fly, he has to disarm it and allow the other contestants to continue the round.

1.7 The presenter will announce over the microphone when each pilot will end his round. Ex: "Pilot one finished" / "Pilot two finished" etc.

1.8 The beginning and end of each training round, qualification or Main Event will be announced on the microphone in English: Ex: "Training Round 1/Qualifiers Round 3/Main Event Race 12 will start in 20sec" / "Round finished, pilots land".

The referee designated to each pilot will raise a hand when his pilot finished the round so the presenter will know which pilot finished.

1.9 At the end of any round the pilots must land in the designated area. When all the pilots have confirmed that they have finished their round and disarmed their multicopters, than one or two Runners will enter the flight zone to recover the multicopters.

At the moment that the Runners are on the track, the pilots are forbidden to arm their multicopters.



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1.10 At the end of any round of Qualifiers or Main Event, the pilots have the right to challenge the referees or race director`s decision. We mention that in order to do so, each pilot must have real proof or a strong argument to support the idea they were wronged or had a technical problem that was not caused by their equipment.

Solving the that case may come at that moment or as the competition progresses, if the time does not allow solving it in that instant.

We recommend that the pilots who want to challenge the referee`s decision, should have the DVR recording showing the technical or any other kind of problem they had at hand.

1.11 Turtle-Mode is accepted.

1.12 If any pilot will fly outside the designated flight area, he will receive a warning on the first strike, fallowed by disqualification from both competitions at the second strike.

In the case of an extremely dangerous situation, the Race Director and/or the Organizer can decide if the pilot will be disqualified at the first strike.

1.13 During the flights **NO** person will be on the flight area of the FPV multirotor competition. Going on the competition flight surface can only be done by the recovering team after they recived confirmation from the event presenter.

1.14 In the event that one or more multirotors fall into water during the race and cannot continue, the pilots are required to disarm the multirotor. As soon as the rest of the pilots finish their rounds they are required to land asap in the designated area so the Runners can get the multirotor out of the water asap.

*****Exeption:**

- **Durring Training sessions**, In the event that one or more multirotors fall into the water during the race and cannot continue, the pilots are required to disarm the multirotor. At that time the event presenter will announce on the speakers that a multirotor is in the water and the round will stop. After the announcement the rest of the pilots will reduce their speed and fly no lower than 5-6m and go to the landing designated area where they will land and disarm, while the Runner/s will enter and recover the multirotors.

As soon as the presenter announce that the Runner has left the track, the rest of the pilots can continue the round.

2. TRAINING:

Training Format:

2.1 During trainings, 4 pilots will simultaneously fly and they will be allowed a maximum of 3 minutes/round.

2.2 The number of training rounds will be determined on the spot by the organiser depending on the time set or time remaining in the event schedule.



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Training Regulations :

2.3 This phase may be considered a test flight and so only the safety rules and the taking off-landing regulations will apply.

2.4 The starting order for the training will be based on the order of the registration of the pilots.

3. Qualifications:

Qualifications Format:

3.1 The qualifications will take place over 3-5 rounds. (We will decide the number of qualifying rounds depending on the available time).

3.2 Four pilots will simultaneously fly, 3 LAPS/round. This way for each pilot the best/fastest round of the 3-5 qualifying rounds will be taken into account.

Qualification Regulations:

3.3 If the pilot takes off before the acoustic and visual START signal, the referee watching the broadcast will mark the pilot with "FS" (Flase Start). If this decision is confirmed at the end of the round, the pilot will be penalized with 25% of the average of the fastest 5 LAPS recorded on the track durring trainings and he will be informed by the event presenter at the end of the round.

3.4 If the pilot misses a gate, flag or any kind of set obstacle, he has to go back and resume the race from that point. Otherwise he will be penalized with 20% of the average of the fastest 5 LAPS recorded on the track durring trainings and he will be informed by the event presenter at the end of the round.

3.5 No more than 2 deviations per round are accepted, the pilot getting disqualified at the third one and he will be informed by the event presenter at the end of the round.

3.6 If the pilot does not finish one or more LAPS in one round, the round will not be taken into account but he's longest distance will be calculated, so that the pilots that have not managed to finish any of the qualification rounds can be differentiated.

3.7 The starting order for the qualifications will be based on the order of the registration for the competition.



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4. MAIN EVENT MULTIROTOR RACING:

It must be mentioned that this year the organiser will adopt the Double Elimination principle as a format for the Main Event (Mostly the Winner's Bracket / Loser's Bracket sistem).

Practically this means that the fastest 8 pilots who have passed qualifications will have a second chance if they have lost one of the Main Event rounds. So, if a pilot has lost a round, he still has a chance of making it into the Big Finale.

In order to better understand how this system works, please consult Appendix 1 enclosed at the end.

You can find more information here: https://en.wikipedia.org/wiki/Double-elimination_tournament

During the technical meeting we will discuss all the details together so that every pilot will have understood the format of this phase.

Main Event Format:

4.1 The 8 pilots (this refers to the first 8 pilots who have achieved the best time in qualifications and continued to the Main Event).

They will be grouped two by two in groups 1, 2, 3 and 4, depending on the time scores in the Qualifications, more precisely: C1+C5; C3+C7; C2+C6; C4+C8 (Position 1 represents the best time, position 8 the lowest time).

At the end of the rounds for groups 1, 2, 3 and 4, the best 4 pilots will go to Winners Bracket while the other 4 will go to Losers Bracket, and they will then fight in Quarter Finals.

The letter "C" serves as an abbreviation for the word Calificari (Qualification).

The figure next to the letter "C" represents the position of the pilot after the qualifiers.

Note: see Annex 1

4.2 The next rounds will take place according to Appendix 1.

4.3 In the Grand Finale the pilots will fly 2 out of 3 rounds.

Main Event Regulations:

Considering that this phase consists of elimination rounds, the rules will be slightly different from the Qualifications.

4.4 The pilot that finishes the round first, without having had any uncorrected deviation from the route (the shortest time) is appointed winner of the round.

4.5 If one of the pilots deviates from the route, which means that he misses an obstacle and doesn't return to it, he will be marked by the referee as UR (Under Review), who will then at the end of the round consult with the race director and they will give the verdict together. If it is confirmed that the pilot missed an obstacle, he will be disqualified and he will be informed by the event presenter at the end of the round.

4.6 If the pilot takes off before the acoustic/visual START signal, the referee watching the broadcast will mark the pilot with "FS" (**Flase Start**) and then at the end of the round he will consult with the race director. If it is confirmed that the pilot had a FS, he will be disqualified



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and he will be informed by the event presenter at the end of the round.

4.7 In the event that both of the multirotors crash and are unable to continue, the pilot who has covered a bigger distance goes on to the next phase (wins the round).

4.8 The distance is measured by the number of obstacles (gates, flags) correctly passed or distance in metres covered between obstacles (if both have crashed between the same obstacles).

4.9 If both multirotors crash without being able to continue and have covered the same distance from the route (+ - 1m), there will be a rematch.

5. CONNECTING / CHARGING the multirotor during the competition

5.1 We ask the pilots to be very careful regarding powering the multirotors while other pilots are preparing to fly or already flying.

5.2 After it has been announced on the microphone or verbally that pilots are about to fly or they are already in the air, under no circumstances will anybody be powering their multirotor (except for, of course, the situations in which the vtx is completely disconnected from the multirotor and the power supply).

5.3 If a pilot ignores the warnings regarding that one or more pilots are about to fly or are already in the air and purposely or without bad intentions powers the multirotor causing an accident of any nature, from a simple video interference to the other pilots, crash of a multirotor that is already in the air, material damage or in the worst case scenario harming participants or audience members, he will be sanctioned with disqualification from the next round that he was supposed to fly up to disqualification from the both competitions. This decision will be made by the race director or/and the event organiser based on the gravity of the events.

6. THE LAP-TRACKING SYSTEM

This year ARA will use the **IMMERSIONRC LAP-RF(or similar)** as Lap tracking system together with the LiveTIME app that will split pilots, frequencies, and will manage and generate rounds semi-automatic.

Also the app will generate a link to the LIVE results of the whole event, so the pilots or anyone that enter the link, can see the times and overall results.

7. TECHNICAL REQUIREMENTS:

7.1 Multirotors from the 200-250 series are accepted and with maximum 5.5 inch propellers.



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7.2 LiPo - Maximum 6S (25.2V). HV batteries are allowed.

7.3 LED light system for identification (the number of leds is not important).

7.4 Giving that the format of the competition that lets 4 pilots to fly at once, for the safety of everyone and for a better overall event, the rules regarding the VTX's model and power will be a bit specific this year.

Such VTX supported models must emit in 5.8 GHz and will be those in the TBS Unify Pro or ImmersionRC Tramp series. In the case that you don't have one of this vtx's on the multirotor, we will decide on the spot if your multirotor is within the technic requirements and also if it disturbs the rest of the participants.

For the safety of everyone at the event, in the case that your VTX causes problems to the other pilots and they cannot fly in safety conditions, you will not be able to join the Multirotor Racing competition.

ARA will provide 1 x TBS Unify PRO Race, in emergency situations or if a pilot really needs this in order to be able to join the competition.

7.5 During the entire duration of the Multirotor racing competition transmissions will not exceed more than 25mw (we recommend TBS unify / Immersion Tramp as a video transmitter or a VTX which easily allows changing the frequencies before the beginning of a round).

7.6 The 5.8Ghz antennas on the quads must be RHCP.

7.7 The multirotor piloting will be performed FPV exclusively.

7.8 Prior to the race, every multirotor needs to pass the Failsafe check.

8. The Multirotor Racing Track.

8.1 The track will be posted online, no later than 1st of September 2019. In addition, at the technical meeting all pilots will receive brochure with the rules book, track design and the rest of the technical details.

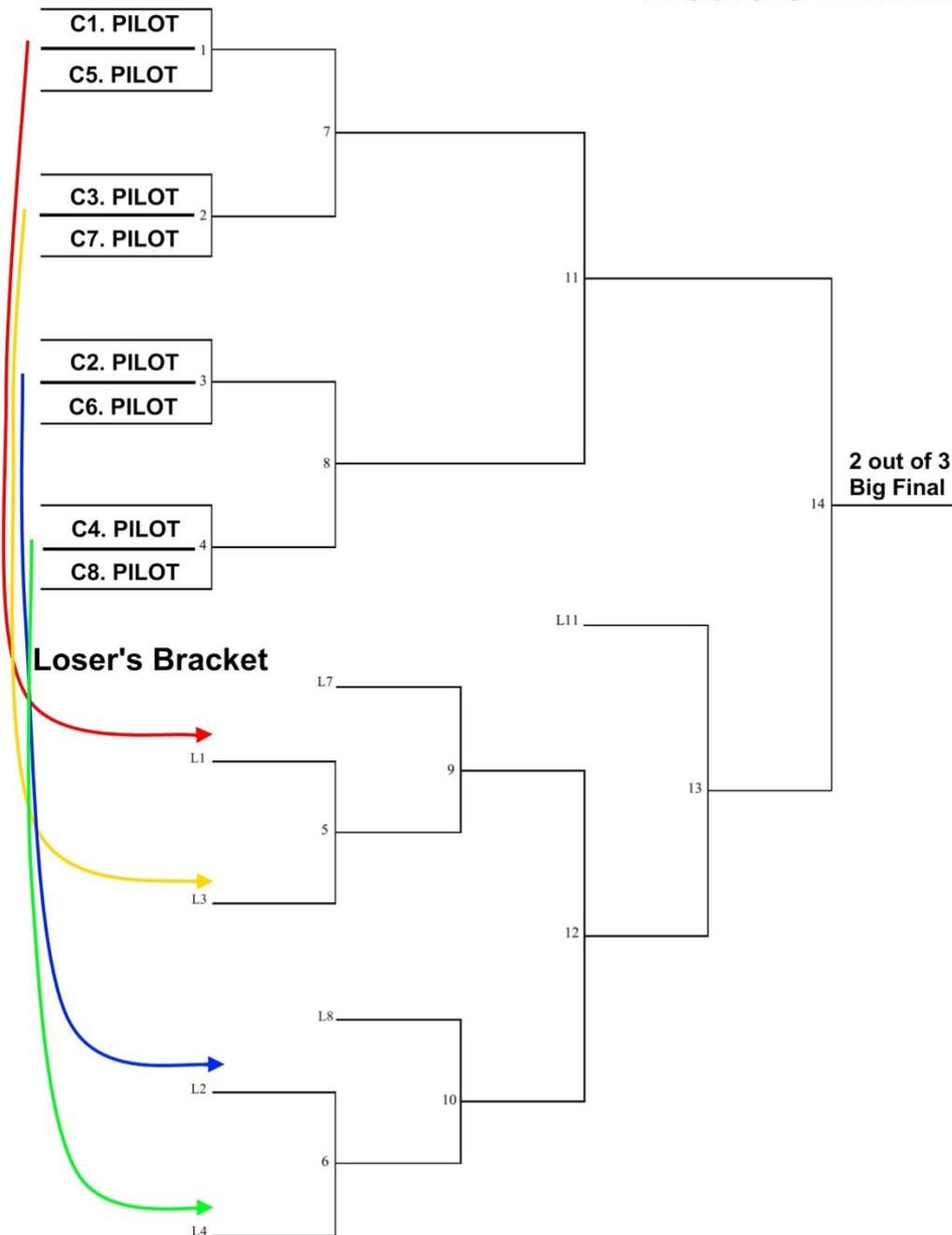
NOTE: *The organiser has all the rights to make changes to the event schedule and rules, only for a better organization of the entire event.*



APPENDIX 1

Winner's Bracket

8 Pilots Double Elimination



● ● ● ● - Represent losers from the first 4 races.

* Cx. PILOT - Stands for position in qualification.