

2019 국제 드론스포츠 챔피언십

DSI International Drone Sports Championship
2019




2019.10.11~13

2019 DSI International Drone Sports Championship Race Rules

1. Technical Regulations

1.1 Quad Specs

Events Specs	Speed Racing	Extreme Moebius
Frame	200mm ≤ The distance between motors ≤ 300mm	
		
Weight	Minimum 400g including batteries and motors	No Restrictions
Propeller	Max. 6 inches (152mm) in diameter Metal props are prohibited	Metal props are prohibited
Battery	Li-Po 6S or Less / Maximum Voltage per cell: 4.2V	

1.2 Fail Safe

Pilots must be able to shut off motors (shut off power) immediately upon emergencies.

1.3 VTX

- a) ImmersionRC Tramp HV, FURIOUS FPV Stealth Race and TBS UNIFY 5G8 (25mW and user adjustable) are recommended. Output power can be adjusted up to 200 mW depending on frequency environments at the site.
- b) Pilots are encouraged to use personal receivers. If using a receiver provided by the organizers, pilots must bring their own cables and adapters (see image below) to fit their goggles and monitor, as these will not be provided by the organizers.



Ref. 1 Sample of receiver cable

1.4 Radio Control

2.4Ghz

1.5 Antenna

5.8GHz RHCP

1.6 Video (OSD)

Video settings must be preset to show the pilot's call name or name (must be identical to the name printed on pilot's uniform) on the screen.

1.7 HD Video Camera (Action Cam)

- a) Weight of Action Cam must be at least 40g (1.4oz) with an image quality of at least 1080p. If the Action Cam weighs under 40g, additional weights as dummies must be added to meet the criteria.
- b) SD cards must be formatted beforehand to store footage from that day only.
- c) Pilots must submit their SD cards after the race.
- d) Submitted video footage may be used by organizers to promote DSI and IDSC. Permission from the organizers must be attained in order to use footage for any other promotional/commercial purposes.

1.8 LED

- a) At least 32 LEDs must be attached to the quad: 8 on each arm – 4 on top and 4 on the bottom.
- b) Attachment of 8 LEDs to the body is not mandatory but highly recommended.
- c) LEDs must be set to alternate between 4 colors – red, yellow, green and blue.



Ref. 2 Sample of LED Light

2. General Regulations of Competition

2.1 Preparation

- a) All pilots in the competition must sign the Agreement of Race Participation in advance.
- b) All pilots may register up to 5 quads, which shall be kept in the drone storage area.
- c) Repairing of quads may take place only within a designated area in the storage area.
- d) Battery, VTX, and LED checkups shall take place in the waiting area before the race.
- e) All pilots may appoint a helper to assist his/her flight. Helpers must not put on FPV goggles.
- f) Practice flights may only take place at the time and place designated by the organizers; all pilots shall be given an equal amount of practice time.
- g) Timing shall be done in two ways – electronically and manually (as backup).
- h) Pilots may start the race only upon hearing the Starter's signal.
- i) Launcher mode is restricted.

2.2 Disqualification

- a) If during the race a pilot not participating in that particular heat turns on his/her quad, he/she will be disqualified (DQ).
- b) Any pilot who fails to start within 30 seconds after the start signal shall be DQ.
- c) Pilots starting before the sound of the signal shall be DQ.
- d) Pilots must pass through all obstacles. For each obstacle that the pilot fails to pass (max.3) there will be a penalty of adding 5 seconds. Pilots miss out more than 3 obstacles shall be DQ.
- e) If a pilot intentionally crashes into another pilot's quad during the race, the initiator of the crash shall be DQ and the disadvantaged pilot may be granted a rematch if the judges deem necessary.
- f) Video noise issues are to be decided by the Chief Judge, and if certain of an external cause, a rematch may be granted.
- g) The organizers shall record each race, but if unable to record the race due to a technical mishap, pilots' footage may be used as a basis for judgment.
- h) Pilots must submit SD card after each heat from the Quarter-Final (Round of 8).
- i) Quads which deviate from the course, are incapable of normal flight due to uncontrollable movements or repeated breaking of the video feed, and thus pose any safety issues, may be ordered by the judges to land.
- j) All interpretation and final decisions shall be made by the Chief Judge, who may consult with the Race Director and the Director of Race Committee to determine whether they are intentional or not and to mediate disputes.

2.3 Countdown

- a) Pilots have 6 minutes to prepare their quads on the start line and perform all checkups needed.
- b) Following the previous round, when the next heat (set of pilots) is allowed onto the

course /the flight line to prepare, a countdown clock is started with 6 minutes on the clock.

- c) The Timer shall be placed where visible to both pilots and audiences. Pilots must be seated and ready to race before the countdown reaches zero.
- d) During the Countdown period, pilots are permitted to swap out their quads, change batteries or any other preparations required.
- e) Any pilots would not ready to race until the countdown reaches Zero, they will be disqualified from that round and must exit the pilots pit.
- f) It is the responsibility of pilots and/or team managers to be aware of when their heat and round are coming up, and to keep an eye on the countdown clock.
- g) If the race can be started due to external causes, the Starter may pause the countdown.

2.4 Unsportsmanlike conduct

- a) Any verbal abuse or taunting of an opponent, inappropriate complaint, assaulting staffs, violent behavior (intentionally strike/attack anyone, throwing any equipment or damaging property), obscene gestures or any unsportsmanlike conducts are strongly restricted. Pilots or Team shall be disciplined like DQ, exit or forfeiting game.
- b) Disciplinary measures may be suggested by DSI secretariat and decided by the majority of the Race Committee. Any member of the Race Committee who is affiliated with the issue shall be excluded from the vote. If the votes get tied, the decision of the Director of the Race Committee is final.

2.5 Dispute

- a) All disputes should be taken to the Director of the Race Committee: Angela Jacques.
- b) She may consult with any other person she deems important to the decision before making a judgment. Decisions of the Director of the Race Committee are final.
- c) Team manager (not pilots) can only raise a dispute after the race has concluded and no later than 15 minutes after this time.
- d) Disputes directly raised by a pilot and/or raised before the conclusion of the race or after the 15- minute period will not be considered.

2.6 Misc.

All matters relating to the competition taking place on the site shall be determined by the Chief Judge. Details of the race operation and schedule are subject to change.

3. Race Operation

3.1 Preliminary Race for Group Formation (henceforth “Preliminary Race”)

- a) 4 pilots compose 1 group for the Preliminary Race.
- b) The Preliminary Race consists of 3 rounds (3 heats for each pilot with 3 laps in each heat).
- c) The highest record out of the 3 heats is the final record of the Preliminary Race.
- d) Groups for the two divisions are formed based on Preliminary Race records.

3.2 Speed Race (Teams Race) – 20 teams attending

3.2.1 Group Formation (4 teams form 1 group)

- a) Seed No.1-5: Based on the Preliminary Race results, teams having 1st-5th ranked pilots are to be placed as Group 1-5.
- b) Seed No. 6-20: Based on the Preliminary Race results, 5 teams holding 5th-10th ranked pilots shall choose groups they want to be in.
- c) After group formation, each team shall submit the competing order of their pilots (It will be released at the beginning of the race, not before it.)

Group 1 (A team that 1 st ranked pilot belongs to)	Group 2 (A team that 2 nd ranked pilot belongs to)	Group 3 (A team that 3 rd ranked pilot belongs to)	Group 4 (A team that 4 th ranked pilot belongs to)	Group 5 (A team that 5 th ranked pilot belongs to)
Seed No. 6-10: Each of 5 teams selects their group in the order of their ranking				
Seed No.11-15: Each of 5 teams selects their group in the order of their ranking				
Seed No.16-20: Each of 5 teams selects their group in the order of their ranking				

3.2.2 1st Round (each group consists of 4 teams)

- a) Each team is composed of 3 pilots.
- b) Each group consists of 4 teams till Semifinal, the winner of each group (5 teams) and 3 teams from the 2nd ranked shall advance to the quarter-finals.

Out of 5 teams of the 2nd ranked, 3 teams are chosen based on the following criteria:

- The sum of points that all pilots of a team obtained
- In case of a tie for points, the sum of the number of completion of pilots of each team
- In case of a tie for the number of completion, the highest record of a pilot of each team

- c) Point Allocation (for individual pilots)

1st ranked (5 points), 2nd (3 points), 3rd (1point), 4th (0 point) + race completion points (additional 2 points)

3.2.3 Quarter-Finals (each group consists of 4 teams)

- a) Obtained points are reset to zero. The 1st, and the 2nd rankers shall advance to semi-

finals.

- b) In case of a tie for obtained points within a group, the identical criteria of the 1st round shall be applied.

3.2.4 Semi-finals and Final (each group consist of 2 teams, best-of-three, tournament)

- a) Each team races against its opponent team 1:1 for a total of 3 times, and the team which wins 2 out of these advances to the next round.
- b) When the race ends after 2 matches, no additional races are done.

3.2.5 Submitting Pilot Rosters (Quarter-finals ~ Final)

- a) Each team must submit the order in which its pilots will race to the Chief Judge within 10 minutes after finishing each round.
- b) This information remains unrevealed until the start of the race. Changes to the order cannot be made once it is submitted.
- c) If it is impossible to progress races due to technical malfunctions, the competing order of the group may be moved to the end.

3.3 Extreme Moebius Race (Individual Race) – in case of 60 pilots attending

3.3.1 Group Formation – Groups are formed based on Preliminary Race results. (each group consists of 4 pilots)

Group1	Group2	Group3	Group4	Group5	...	Group13	Group14	Group15
1 st	2 nd	3 rd	4	5		13	14	15
30 th	29	28	27	26		18	17	16
31 st	32	33	34	35		43	44	45
60 th	59	58	57	56		48	47	46

- a) If pilots of the same nationality are put into the same group, one of the pilots shall switch groups with the pilot of the next ranking.
- b) If the number of participants is not a multiple of 4, the number of pilots in each group shall be reduced starting from Group1 and so on.

3.3.2 Race Process

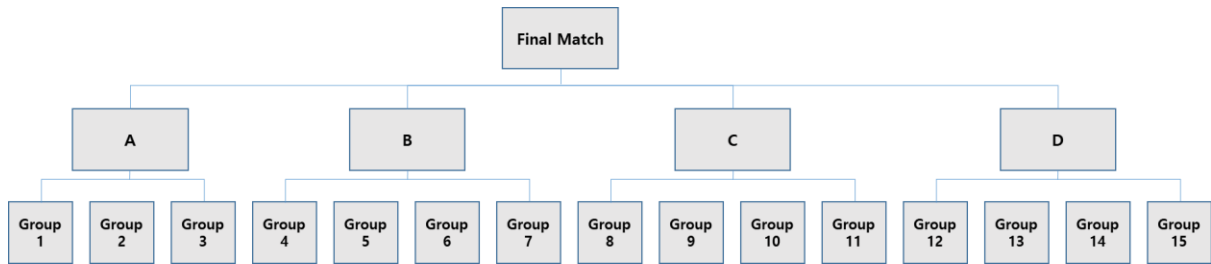
- a) 4 pilots shall start off at the same time. They shall fly along the ∞ shape course until 1 final quad (the winner) remains in the course.
- b) The race ends in case all quads fall onto the ground.
- c) Any pilots behind more than 1 lap from the 1st placer shall be DQ.
- d) Only the winner of each group advances to the next round.

3.3.3 Tournament

- a) 60 pilots → 15 pilots: 4 pilots form each group, the winner of each group advances to the Round of 15 (15 races)
- b) 15 pilots → 4 pilots: 3 or 4 pilots form each group (ref. 3), the winner of each group

advances to Semi-finals

c) Final: 4 pilots form 1 group, 1 race



Ref.3 Sample of Extreme Moebius Race Chart