



2018 World Drone Racing Championships Sporting Rules

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THIS EDITION INCLUDES THE FOLLOWING AMENDMENTS MADE TO 1ST MARCH 2018 EDITION

These amendments are marked by a double line in the right margin of this edition

Paragraph	Brief description of change
Introduction	Reference to Volume 'F3 Radio Control Drone Racing' Edition 2018 instead 2017. Clarification regarding the helper.
2.4. Analog video system	Mention that the analog video system is used for piloting (clarification) and must be set with 25 mW maximum power emission. Removal of the note mentioning that digital VTX could be possibly required instead analog VTX. Introduction of a note concerning VTX organiser's supply. Clarification regarding activation of a video transmitter outside the racing circuit.
2.5. DJI digital video unit	Request to install in addition on the model a DJI digital video unit for live streaming and TV broadcasting (detailed information in Bulletin #2). Consequent removal of the requirement of a PAL encoding format for the analog video on-board camera and of a possible request of installation of a camera GoPro Session.
2.6. Radio control (RC) equipment	Strong recommendation to use of a 868 MHz and/or 915 MHz module on the RC equipment. Mention that 433 MHz frequency is not authorised. Clarification regarding use of RC equipment outside the racing circuit.
2.7. LED light device	'Unit' replaced by 'device'. Introduction of a note concerning LED light unit organiser's supply.
2.8. Identification mark	Removal of possibility to mention the National FAI Licence number instead the FAI ID number.
4. Model processing	Removal of spare parts processing and marking. Clarifications regarding model processing.
6.1. Timekeeping	Clarification of triggering of the timekeeping.
6.2. Procedure for the start of the race	Clarification regarding signal for the start of the race.
6.3. Qualification stage	Possibility of 6 or 4 pilots per group depending the total number of competitors. Removal of the requirement that the draw for each qualifying round will be done so that one competitor only per country may be in the same group.
6.4. Elimination stage	Ex scenario A retained for the elimination stage: rounds with 4 pilots per group and 1/16 th final round as first elimination round (64 competitors selected from the qualification stage).
6.5. Finals	Clarification of the different finals (overall, junior and women).
6.6. Classification stage	Clarification of the "second chance" and additional rounds sequences. 4 pilots per group for all rounds of the "second chance sequence" in coherence with elimination rounds. Possibility of 6 or 4 pilots per group for the additional rounds sequence depending the number of concerned competitors. Removal of the requirement that the draw for each additional round will be done so that one competitor only per country may be in the same group.
9. Final classification	Clarification of the different classifications.
10.3. Judges	Clarification of the positioning of the judge. Mention that each judge will be equipped with a video screen to follow his/her assigned pilot. Replacement of 'chief judge' by 'supervisor judge'.
Annexes	Deletion of the 3 previous annexes relative to scenarios A, B and C. Introduction on an Annex 1 with the F3U Processing Form. Introduction of an Annex 2 with composition of the races for elimination and final stages and for second chance sequence.

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The proposed rules for the 2018 FAI World Drone Racing Championships are derived from the F3U (RC Multi-Rotor FPV Racing) class rules which are used for the FAI Drone Racing World Cup events.

Note: F3U class rules are part of the FAI Sporting Code - Section 4 Aeromodelling - Volume 'F3 Radio Control Drone Racing' (2018 Edition effective 15 March 2018).

Multi-rotor FPV (First Person View) Racing consists of several multi-rotor model aircraft flying together through a closed racing circuit.

Note: A multi-rotor is a rotary wing radio-controlled model aircraft equipped with at least three power driven propeller devices.

The generic term 'model' will be used in the present document.

Each model is operated by an FPV pilot who is considered as the competitor. The FPV pilot is equipped with a headset goggle which allows him/her to pilot the model from the video picture of the onboard camera which is transmitted in real time on the headset goggle.

The FPV pilot is assisted by one and only one helper who stays next to him during the whole flight. The helper is mandatory for safety reason. The helper may be the team-manager or another competitor.

The main task of the helper is to keep the model in visual line of sight. Besides that, he must inform the FPV pilot of anything occurring that can affect his/her piloting, especially about safety. If the helper requests the FPV pilot to land or to cut off the engines, he must do it immediately. In case of emergency, the helper is authorised to shut off the transmitter in order to trigger the fail-safe device.

1. RACING CIRCUIT

The racing circuit will be outdoor.

The design will be approved by FAI, and will be made public and published about two months before the championship.

2. GENERAL SPECIFICATIONS FOR MODELS

A 1 % tolerance is applicable for inaccuracy of the measurement devices for size, weight and batteries tension.

The model must be equipped with a fail-safe device, the triggering of which stops the motorization.

Are strictly forbidden:

- Pre-programmed manoeuvring device.
- System for automatic positioning and/or path rectification in longitude, latitude or height.

Note: Software recovery modes such as 'anti Turtle' or 'anti crash' and automatic system or which can be activated by the pilot in order to level back the model after a crash are authorised.

2.1. Weight and size

The total weight of the model including batteries and all on-board devices shall not exceed 1 kg.

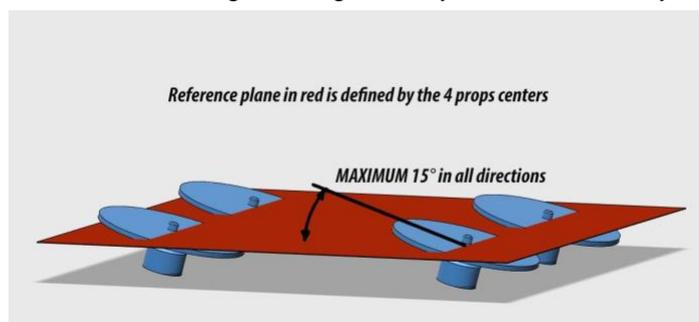
Distance between axes of the engines shall be less than 330 mm. This distance is measured on the diagonal of the engines' axes.

2.2. Motorization

Only electric motors with a maximum voltage of 17.0 volts (4S) are allowed. The voltage measurement is done before the flight.

The reference plane is defined with propellers centres. Each motor can be tilted up to 15° maximum angle in each direction.

On a tri-copter, the inclination of an engine in flight is only allowed with the yaw order.



2.3. Propellers

Maximum diameter: 6 inches (15.2 cm).

Full metal propellers are forbidden.

Any propeller protection device is forbidden.

2.4. Analog video system

The analog video system will be used for piloting and will be operated on 5.8 GHZ band.

Are only authorised the three following video transmitters (VTX):

- TBS (Team BlackSheep) Unify Race.
- ImmersionRC Tramp.
- Furious Stealth Race.

The VTX must be set with a 25 mW maximum power emission.

Note: TBS Unify Race VTX (with antenna) may be supplied by the organiser. See Bulletin #2 for modalities of supply.

In order to limit risk of potential problems during the races with unwanted emission, activation of video transmitters outside the racing circuit will not be permitted without a specific authorisation of the contest director.

In case of a non authorised activation of a video transmitter equipment, a penalty going up to disqualification from the contest may be imposed to the concerned competitor or national team by the contest director, with the consent of the FAI Jury.

2.5. DJI digital video unit

In order to satisfy live streaming and TV broadcasting quality requirements, competitors are requested to install in addition on their model an 'all-in-one' DJI digital video unit with approximately the size and weight of a GoPro Session camera.

Note: See Bulletin #2 for detailed technical information and modalities of supply by the organiser of this unit to the competitors.

2.6. Radio control (RC) equipment

Regarding the frequency band used for the digital video signal transmission, there is a risk of interference with signal loss on a 2.4 GHz RC equipment. So, use of a TBS Crossfire module (868 MHz / 915 MHz) or any other 900 MHz module on the RC equipment is strongly recommended

Use of 2.4 GHz RC equipment will be possible under entire responsibility of the competitor.

Note: 433 MHz frequency is not authorised in China.

In order to limit potential problems during the races with unwanted emission, use of RC equipment outside the racing circuit will not be permitted without a specific authorisation of the contest director.

In case of a non authorised use of a RC equipment, a penalty going up to disqualification from the contest may be imposed to the concerned competitor or national team by the contest director, with the consent of the FAI Jury.

2.7. LED light device

In order to provide for the public the best view of the models during the races and to facilitate the task of the judges, each model must be equipped with a LED light device including possibility to choose the colour so that each model in flight has a different colour.

The goal is that every model must be viewable from every direction and angle.

LED light device requirements:

- 40 LED's minimum (4 on bottom and 4 on top on each of the 4 arms of the model + 8 on the sides of the body).
- RGB controller to program the assigned colour before each race.
- Mandatory colours: Blue - Green - Orange - Pink - Purple - Red - Yellow

Competitors must strictly respect the requirements and take care the device allows to change easily the colour just before the race.

Note: LED light devices including the controller may be supplied by the organiser. See Bulletin #2 for modalities of supply.

The competitor may be requested to use the LED light unit supplied by the organiser in case his/her own device is not considered compliant with requirements or with an acceptable brightness.

Note: *In order to simplify organisation and improve the understanding of the races by the public, the colour, such as the video frequency, will be assigned for each race according to the draw order in the group.*

2.8. Identification mark

Each model shall carry the 3 (three) letters national identification mark followed by the FAI Sporting Licence ID number.

The letters and numbers must be at least 6 mm high and appear at least once on each model.

3. NUMBER OF MODELS

Each competitor may use a maximum of 3 (three) models.

The competitor can change the model:

- between two rounds of the qualification stage and elimination stage;
- or before the start of the race as long he hasn't left the preparation area.

4. MODEL PROCESSING

A model processing will be done by the organiser in parallel with the official practice session.

Each competitor can register up to three models.

For points which will be checked at the model processing, see the F3U Processing form in Annex 1. This form may be subject to some changes.

The organiser will mark each registered model with a visible and difficult to falsify marking.

When, after the model processing a model is lost or damaged, the competitor shall have the right to present a further model for checking up to one hour before the official starting time of the championship.

During the official contest time, a random processing may be organised in order to check after the race the most important characteristics of the model. A competitor whose model wouldn't be compliant may be disqualified from the contest by the contest director.

5. PRACTICE FLIGHTS

An official practice session will be organised in parallel with the model processing. The organiser will define the conditions of the practice session according to the available time and the number of competitors.

Practice flights on the venue other than those authorised by the organiser are strictly forbidden under threat of being disqualified from the contest.

6. CONTEST ORGANISATION

6.1. Timekeeping

Every race will be timed with an electronic timing system provided by the organiser. The organiser will supply for free to each competitor the eventual chips to install on the models.

Except for qualifying stage (see paragraph 6.3), timekeeping is triggered at the start of the race done by the starter.

6.2. Procedure for the start of the race

The start of the race will be done by the starter as follows:

- After the models have been placed on the start area, the starter will request the competitors if they are ready to start.
- When the starter considers that the competitors are ready, he will announce clearly 'Arm your quads'.
- About 3 seconds after this announcement and taking care of an equivalent time for all races, there will be a brief and intelligible sound signal for the start of the race with no countdown (3, 2, 1) done before the start signal.

If the starter considers that he has proceeded wrongly, he may then immediately stop the race and do a new start. Before the new start, the competitors will have the possibility to change the battery pack on their model.

6.3. Qualification stage

Each competitor will be entitled to participate to 3 (three) qualification rounds.

Qualifying rounds will be run with 6 (six) or 4 (four) pilots per group depending the total number of competitors.

Composition and flight order of the groups will be determined with a blind draw. The draw will be different for each qualifying round.

Each qualification round will be done with a maximum allocated flying time of 4 (for) minutes.

For each model, timekeeping will be triggered when the model passes the timekeeping sensor. After the start of the flight, each pilot must go directly to the first air gate where the timekeeping sensor is positioned without possibility to do flight recognition of the track.

Then, 3 (three) consecutive laps will be timed. After the 3 laps are finished, the pilot must land the model.

Reflights will be flown at the end of the concerned round.

Races with fewer than the required pilot's number (6 or 4), for example in case of withdrawal of a pilot, will be put at the end of the draw of the round, in order to allow a complete pilots race with pilot(s) that have been granted a reflight in that round.

If necessary, the last groups of each qualifying round may be rearranged by the chief judge (under supervision of a FAI Jury member) in order to get as far as possible a minimum of 3 pilots per group.

The result of each competitor for the qualification stage will be the average of the 3 (three) best times recorded to perform one valid circuit lap taking in account all the qualifying rounds. The best times may be done in the same qualifying round or in different ones.

A provisional ranking will be established at the end of the qualifying stage, taking into account the result obtained by each competitor. In case of a tie for the last place(s) for selection to the elimination stage, the 4th best time recorded to perform one valid circuit lap result will be considered to split the tie, and then if necessary the 5th one, and so on. In case the times are not sufficient, a tie-break flight will be organised between the competitors still concerned by the tie.

If the number of competitors required for the elimination stage is not reached with the competitors getting 3 (three) times, competitors getting only 2 (two) times to perform one valid circuit lap will be considered taking in account the average of their 2 times. If it is still not sufficient, competitors getting only 1 (one) time to perform one valid circuit lap will be considered.

If the number of competitors required for the elimination stage is still finally not reached, an additional qualifying flight will be organised for the competitors who have not been able to set a time at that stage. This will be repeated until the appropriate number of competitors for the elimination stage is reached.

The competitors who need an additional qualifying flight to achieve a time to be selected for the elimination stage will be placed after those who are already selected, and then those who need a second additional flight, and so on.

6.4. Elimination stage

Elimination stage will begin with 1/16th final round (16 groups) which means 64 competitors selected from the qualification stage.

All elimination rounds will be run with 4 (four) pilots per group.

All races of the elimination stage will be run on a defined number of laps taking into consideration the performance achieved during the qualification stage. Except under exceptional circumstances, the number of laps will be identical for all rounds of the elimination stage.

Reflights will be flown at the end of the concerned round.

Races with fewer than 4 pilots, for example in case of withdrawal of a pilot, will be put at the end of the draw of the round in question, in order to allow a complete pilots race with pilot(s) that have been granted a reflight in that round. If necessary, the last groups of each qualifying round may be rearranged by the chief judge (under supervision of a FAI Jury member) in order to get as far as possible a minimum of 3 (three) pilots per group.

The placing for each race is determined taking into account the time achieved when the number of laps is completed. For those who will not finish their flight, placing will be done considering the distance completed (number of laps and part of the last lap completed) when they stop their flight, competitors disqualified being placed last.

When in a race, none of the competitors of the group has been in a situation to finish the race (crash or other reason), a new race is immediately organized for this group.

Organisation of the elimination rounds

For each round, the two best placed in each race will be selected for the next elimination round. In case of a tie for the second place, the placing in the provisional ranking established at the end of the qualifying stage will be considered to define who is directly selected for the next round.

For the first elimination round (1/16th final), composition and flight order of the groups are defined in the following table considering the provisional ranking established at the end of the qualifying stage.

	DRAW 1/16 th FINAL ROUND			
Race 1	Placed 1	Placed 17	Placed 33	Placed 49
Race 2	Placed 16	Placed 32	Placed 48	Placed 64
Race 3	Placed 8	Placed 24	Placed 40	Placed 56
Race 4	Placed 14	Placed 30	Placed 46	Placed 62
Race 5	Placed 4	Placed 20	Placed 36	Placed 52
Race 6	Placed 12	Placed 28	Placed 44	Placed 60
Race 7	Placed 6	Placed 22	Placed 38	Placed 54
Race 8	Placed 10	Placed 26	Placed 42	Placed 58
Race 9	Placed 9	Placed 25	Placed 41	Placed 57
Race 10	Placed 5	Placed 21	Placed 37	Placed 53
Race 11	Placed 11	Placed 27	Placed 43	Placed 59
Race 12	Placed 3	Placed 19	Placed 35	Placed 51
Race 13	Placed 13	Placed 29	Placed 45	Placed 61
Race 14	Placed 7	Placed 23	Placed 39	Placed 55
Race 15	Placed 15	Placed 31	Placed 47	Placed 63
Race 16	Placed 2	Placed 18	Placed 34	Placed 50

For the next elimination rounds (1/8th final, quarter final and semi final), composition and flight order of the groups are defined in Annex 2.

6.5. Finals

All finals will be run with 4 (four) pilots per group.

The number of circuit laps to complete may be increased for the overall individual classification final but cannot be more than twice the number of circuit laps retained for the elimination stage. The number of laps is defined by the contest director taking into consideration the autonomy of the batteries to guarantee safe flights.

This possibility does not apply for the overall small final and for junior and women finals.

In any final, those who will not finish the flight (crash or other reason) will be ranked considering the distance completed (number of laps and part of the last lap completed) when they stop their flight, disqualified competitors being placed at the end.

Overall final and small final

The two best placed competitors in each of the two semi-final round flights are selected for the final to determine their final ranking from 1st to 4th in the overall individual classification. The other competitors from the semi-final round will fly a small final to determine their final ranking from 5th to 8th.

Junior final

A junior final will be organised subject junior competitors from at least four nations participate to the World Championships. The four best placed juniors in the overall individual classification are selected for this final to determine their final ranking from 1st to 4th for the junior individual classification.

Note: Organisation of a specific junior final may be reconsidered if three or four juniors are selected for the overall final.

Women final

A women final will be organised subject female competitors from at least four nations participate to the World Championships. The four best placed females in the overall individual classification are selected for this final to determine their final ranking from 1st to 4th for the women individual classification.

Note: Organisation of a specific women final may be reconsidered if three or four women are selected for the overall final.

6.6. Classification stage

This stage determines overall individual classification from the 9th place to the end.

A) "Second chance" sequence

The "second chance" sequence allows competitors eliminated in 1/16th final round, or 1/8th final round, or quarter final round to continue to fly and get possibility to improve their final placing from 9th to 64th places. A competitor will be definitively eliminated after being eliminated in a round of the "second chance" sequence.

This sequence finishes by a final which determines final placing from 9th to 12th for the overall individual classification.

All rounds for this sequence will be run with 4 (four) pilots per group as for the elimination rounds.

For the different rounds up the "second chance final, composition and flight order of the groups are defined in Annex 2.

B) Additional rounds sequence

All competitors not selected for the 1/16th final round after the qualification stage will be entitled to participate to 3 (three) additional rounds to determine their final placing from 65th place.

Additional rounds will be run with 6 (six) or 4 (four) pilots per group depending the number of competitors concerned. Except under exceptional circumstances (for example bad weather), the number of pilots per group must be the same for all additional rounds.

Composition and flight order of the groups will be determined with a blind draw. The draw will be different for each additional round.

Reflights will be flown at the end of the concerned round.

Races with fewer than the required pilot's number (6 or 4), for example in case of withdrawal of a pilot, will be put at the end of the draw of the round in question, in order to allow a complete pilots race with pilot(s) that have been granted a reflight in that round.

If necessary, the last groups of each qualifying round may be rearranged by the chief judge (under supervision of a FAI Jury member) in order to get a maximum of races with the required pilot's number.

When finally at the end of the round, a race does not contain the required pilot's number, volunteers from different nations will be requested to allow the remaining race to start with the required pilot's number.

If there are too many volunteers, the chief judge (under supervision of a FAI Jury member) will conduct a blind draw to determine the necessary volunteers and then a separate draw for the order in each group (for positioning on the start line).

If there are insufficient volunteers, the race will start with less than the required pilot's number.

The volunteer(s) are not eligible to have their result registered or cannot be granted a reflight from this race.

At the end of each race, each pilot is awarded as follows a number of points corresponding to his/her place:

- Required pilot's number per group of 6: 1 point for the first placed, 2 points for the second, 3 points for the third, and so on. A pilot who does not finish the race gets 7 points. A pilot who does not fly in a race or who has been disqualified gets 8 points.
- Required pilot's number per group of 4: 1 point for the first placed, 2 points for the second, 3 points for the third and 4 points for the fourth. A pilot who does not finish the race gets 5 points. A pilot who does not fly in a race or who has been disqualified gets 6 points.

The final placing will be done taking in account for each competitor the sum of the points he get in all the additional rounds, the competitor with the lower number of points being placed ahead, and so on.

In case of a tie, the placing in the provisional ranking established at the end of the qualifying stage will be considered to split the tie for the concerned competitors.

7. FLIGHT OCCURRENCES

7.1. Faults and penalties

In case an air gate or an obstacle that needs to be crossed is not effectively crossed, the pilot may try to execute a manoeuvre to cross the air gate or the obstacle again.

If during this manoeuvre the pilot has a collision with another model, the pilot will be disqualified for the race. The pilot whose model has been collided may get a reflight if his/her assigned judge considers that this collision has clearly penalised the pilot.

If the pilot does not cross an air gate or an obstacle to be crossed, the corresponding circuit lap will not be validated by his/her assigned judge.

Note: *If an air gate or an obstacle is accidentally broken during a race, the race will continue and every pilot must do the best to follow the track and not take advantage of this situation.*

In case of a circuit cut (for example during a turn), the pilot may execute as soon as possible a manoeuvre to come back into the circuit where he left it. If his/her assigned judge considers that the pilot has not made the manoeuvre with sufficient urgency, the judge can decide that the corresponding circuit lap is not validated. If during this manoeuvre the pilot has a collision with another model, the pilot will be disqualified for the race. The pilot whose model has been collided may get a reflight if his/her assigned judge considers that this collision has clearly penalised the pilot.

7.2. Disqualification from the race

A pilot may also be disqualified in a race in case of:

- a start before the starter signals if it is considered that this early start gives a clear advantage to the concerned pilot;
- a circuit exit (crossing of the safety line);
- a celebratory manoeuvre especially after the pilot finishes.

The disqualification is decided at the discretion of the judge in charge of the pilot.

The judge can also pronounce a disqualification if the judge considers that:

- the pilot flies so high that it does not allow to judge the performance's pilot on the track;
- the piloting is hazardous or if safety is involved.

When a pilot is disqualified, the concerned pilot must immediately land. In any case, the result of the pilot for the race will not be validated. If the pilot is considered not being sufficiently cooperative to land, the concerned pilot may be disqualified from the contest by the FAI Jury on request of the assigned judge.

7.3. Crash

When a model crashes, the concerned pilot can go on again if the pilot is in a situation to do so. However, the pilot can be requested by his/her assigned judge to stop the flight if the judge considers that the model no longer meets acceptable safety standards.

When the model cannot go on, it must stay on ground with engines cut off until the end of the race: the concerned pilot cannot request a reflight.

7.4. Video issues

When a pilot gets a video problem which leads the pilot to consider not to be able to continue the flight, a reflight can only be granted if it is proved that the problem is caused by an identifiable external cause. In any case, it is not possible to turn against the organiser.

In case of a failure of the video system which does not allow the judge to perform his/her task:

- In a qualifying flight, the concerned pilot is granted a reflight.
- In any flight in the elimination stage, the judge lets his/her assigned pilot finish the flight and does best to judge and validate the circuit laps. When the result permits the pilot him to be directly selected for the next elimination round (or for the final), the concerned pilot is granted a reflight.
- For the final, the judge lets his/her assigned pilot finish the flight and does best to judge and validate the circuit laps. If the pilot is placed in the three first, the final is re-run; this does not concern the small final.

7.5. Reflight

Apart from the possibilities of reflight mentioned above, a reflight can be granted when either the start of the model or the flight cannot be done in normal conditions because of an unexpected cause beyond the pilot's control.

A reflight can be granted when, for a reason of safety, either the preparation of the model or the flight cannot be made in the allotted time limit or when either is disrupted by an external interference.

A reflight can be granted if, for a reason independent from the pilot's will, the pilot has been forced to land on request of an official.

Failures of the model, motorization or radio cannot be considered as reasons independent from the pilot's will.

Incidents during races such as collisions between models or with obstacles cannot justify a reflight.

Noise in the environment of the pilots (noise in the public, noise from other competitors, ...) cannot justify a reflight.

A reflight may be considered for a pilot in case of his/her chair clearly affects his/her flight. If the pilot's helper is at the origin of the problem, a reflight cannot be granted.

Final granting of a reflight is the responsibility of the contest director. For the pilot being granted a reflight, the flight for which the pilot has been granted the reflight is then definitively cancelled.

8. PARTICIPANTS

8.1. National teams

Every National Airsport Control (NAC) may enter a team consisting of:

- A team manager.
- Three competitors extended to a maximum of five competitors providing at least one is a junior (age limit 18 years in the year 2018) and at least one is a female.
- Helpers (one permitted for each competitor).
- Supporters.

8.2. Individual competitors

As organiser, Aero Sports Federation of China (ASFC) will be entitled to issue three individual invitations (wild card) for competitors from People's Republic of China in addition to the national team.

FAI may also invite individual competitors especially when a NAC does not recognize or has dedicated structures for Drone Racing. Those competitors must have been placed in 2018 FAI Drone Racing World Cup events and will be considered as FAI.

All individual competitors compete for the individual classification but not for the team classification.

Each individual competitor is permitted to have one helper.

9. FINAL CLASSIFICATION

9.1. Overall individual classification

The individual overall classification concerns all competitors (including juniors and women) and will be established as described in the following table.

Place	
1	1 st in final
2	2 nd in final
3	3 rd in final
4	4 th in final
5	1 st in small final
6	2 nd in small final
7	3 rd in small final
8	4 th in small final
9	1 st in second chance sequence final
10	2 nd in second chance sequence final
11	3 rd in second chance sequence final
12	4 th in second chance sequence final
13 & 14	3 rd in races 54 & 55 (<i>Round 5 second chance sequence</i>) with final placing according to provisional ranking after qualifying stage
15 to 20	3 rd and 4 th in races 51 to 53 (<i>Round 4 second chance sequence</i>) with final placing according to provisional ranking after qualifying stage
21 to 32	3 rd and 4 th in races 45 to 50 (<i>Round 3 second chance sequence</i>) with final placing according to provisional ranking after qualifying stage
33 to 48	3 rd and 4 th in races 33 to 40 (<i>Round 2 second chance sequence</i>) with final placing according to provisional ranking after qualifying stage
49 to 64	3 rd and 4 th in races 17 to 24 (<i>Round 1 second chance sequence</i>) with final placing according to provisional ranking after qualifying stage
65 and beyond	Placing according to sum of points in all additional rounds; competitor with the lower number of points is placed ahead, and so on In case of tie, provisional ranking after qualifying stage considered to split the tie for the concerned competitors

9.2. Junior individual classification

The junior individual classification will be done considering:

- placing in the junior final (or in the overall final) for the concerned juniors;
- ranking in the overall individual placing for the other juniors.

Note: According to the CIAM General Rules, the title of Junior World Champion will be awarded only if junior competitors from at least four nations participate.

9.3. Women individual classification

The Women individual classification will be done considering:

- placing in the women final (or in the overall final) for the concerned women;
- ranking in the overall individual placing for the other women.

Note: The title of Women World Champion will be awarded only if female competitors from at least four nations participate.

9.4. National team classification

The national team classification will be established by adding together the numerical final placing of the three best placed members of each national team considering the overall individual classification reconsidered without taking in account the individual competitors.

Teams will be ranked from the lowest numerical places to the highest, with complete three competitor teams, ahead of two competitor teams, which in turn are ranked ahead of one competitor teams.

In the case of a tie, the best individual placing decides to split the tie for the concerned national teams.

10. OFFICIALS

10.1. FAI Jury

The three members of the FAI Jury will be appointed by FAI and shall be of different nationalities.

10.2. Key other officials

The following key officials will be appointed by the organiser with an FAI approval:

- Contest director and contest director assistant.
- Starter and assistant(s).
- Judges.

10.3. Judges

For each race, each pilot will be followed by a judge standing closed behind him.

Each judge will be equipped with a video screen connected on a video output of his/her pilot receiver allowing him/her to follow the flight of his assigned competitor sharing all the time the same video picture.

The judge must clearly inform the competitor and/ or the helper when an air gate or an obstacle is not considered to be crossed, or in case of a circuit cut. He will monitor that the competitor goes back and crosses the gate or the obstacle correctly, or comes back to the point where the cut happened.

At the end of the flight, the judge informs the competitor if the flight is considered to be valid or if a disqualification has been pronounced; in the case of disqualification, the number of circuit laps done at the moment of the disqualification will be mentioned by the judge to the competitor and registered.

At the end of the flight, each judge informs the competitor if the flight is considered to be valid or if a disqualification has been pronounced; in case of a disqualification, the number of circuit laps done at the moment of the disqualification will be mentioned by the judge to the concerned pilot and registered.

An additional judge as supervisor judge will be appointed.

11. INTERRUPTION OF THE CONTEST

The contest director may interrupt the competition or delay the start of a race if the wind is continuously stronger than 9 m/s measured at two (2) metres above the ground near the preparation area for at least one (1) minute.

When interruption occurs during an official flight, the flight in question is cancelled.

If the contest cannot go up to the end, the final ranking will be the last available provisional ranking.

- ANNEX 1 - F3U Processing form

Competitor's FAMILY and First name:

Country: **FAI ID:**

Radio control equipment:

Reference of the RC equipment:

2,4 GHz Other frequency (precise the frequency):

If appropriate, reference of the 868 MHz and/or 915 MHz module:

Reference of the headset goggle:

Number of models processed (3 maximum):

Weight (1 kg maximum including batteries and all on-board devices)

Model A: **Model B:** **Model C:**

Batteries references (4S - 17.0 V max):

Model A:

Model B:

Model C:

	Model A	Model B	Model C
Identification mark (minimum 6 mm high)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Size (distance between axes less than 330 mm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prop size (not more than 6")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test of the fail-safe device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reference of the VTX used on the model:			
TBS Unify Race	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ImmersionRC Tramp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Furious Stealth Race	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LED light unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Checking of the installation of the DJI digital video unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organiser marking of the model	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name of the controller:

Signature of the controller:

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- ANNEX 2 - Composition of the races

ELIMINATION & FINAL STAGES							
1/16 th FINAL ROUND	1/8 th FINAL ROUND		QUARTER FINAL ROUND		SEMI FINAL ROUND & OVERALL FINALS		
Race 1	Race 25	2 nd race 1	Race 41	2 nd race 25	Semi 1		
Race 2		1 st race 1		1 st race 25			
Race 3		2 nd race 2		2 nd race 25			
Race 4		1 st race 2		1 st race 26			
Race 5	Race 26	2 nd race 3		Race 42		2 nd race 27	Semi 2
		1 st race 3				1 st race 27	
Race 6	1 st race 4	1 st race 26		1 st race 28			
Race 7	2 nd race 4	2 nd race 26		2 nd race 28			
Race 8	Race 27	2 nd race 5		Race 43		2 nd race 29	Semi 2
Race 9		1 st race 5				1 st race 29	
Race 10		1 st race 6				1 st race 30	
Race 11		2 nd race 6				2 nd race 30	
Race 12	Race 28	2 nd race 7		Race 44		2 nd race 31	Small final
Race 13		1 st race 7				1 st race 31	
Race 14		1 st race 8				1 st race 32	
Race 15		2 nd race 8				2 nd race 32	
Race 16	Race 29	2 nd race 9	Race 44	2 nd race 32	Final		
Race 17		1 st race 9		1 st race 32			
Race 18		1 st race 10		1 st race 32			
Race 19		2 nd race 9		2 nd race 32			
Race 20	Race 30	2 nd race 11	Race 44	2 nd race 32	Final		
Race 21		1 st race 11		1 st race 32			
Race 22		1 st race 12		1 st race 32			
Race 23		2 nd race 12		2 nd race 32			
Race 24	Race 31	2 nd race 13	Race 44	2 nd race 32	Final		
Race 25		1 st race 13		1 st race 32			
Race 26		1 st race 14		1 st race 32			
Race 27		2 nd race 14		2 nd race 32			
Race 28	Race 32	2 nd race 15	Race 44	2 nd race 32	Final		
Race 29		1 st race 15		1 st race 32			
Race 30		1 st race 16		1 st race 32			
Race 31		2 nd race 16		2 nd race 32			

SECOND CHANCE SEQUENCE							
ROUND 1		ROUND 2		ROUND 3		FINAL	
Race 17	4 th race 1	Race 33	3 rd race 25	Race 45	3 rd race 41	Second chance final	
	3 rd race 2		2 nd race 23		2 nd race 33		
	3 rd race 3		1 st race 24		1 st race 40		
	4 th race 4		4 th race 26		2 nd race 34		
Race 18	4 th race 5	Race 34	3 rd race 27		Race 46		3 rd race 42
	3 rd race 6		2 nd race 21				2 nd race 35
	3 rd race 7		1 st race 22				1 st race 39
	4 th race 8		4 th race 28				2 nd race 36
Race 19	4 th race 2	Race 35	3 rd race 26		Race 47		4 th race 42
	3 rd race 1		2 nd race 24				1 st race 38
	3 rd race 4		1 st race 23				1 st race 37
	4 th race 3		4 th race 25				4 th race 43
Race 20	4 th race 6	Race 36	3 rd race 28		Race 48		4 th race 41
	3 rd race 5		2 nd race 22				1 st race 36
	3 rd race 8		1 st race 21				1 st race 35
	4 th race 7		4 th race 27				4 th race 44
Race 21	4 th race 9	Race 37	3 rd race 29	Race 49	3 rd race 43		
	3 rd race 10		2 nd race 18		2 nd race 37		
	3 rd race 11		1 st race 17		1 st race 34		
	4 th race 12		4 th race 30		2 nd race 38		
Race 22	4 th race 13	Race 38	3 rd race 31	Race 50	3 rd race 44		
	3 rd race 14		2 nd race 20		2 nd race 39		
	3 rd race 15		1 st race 19		1 st race 33		
	4 th race 16		4 th race 32		2 nd race 40		
Race 23	4 th race 10	Race 39	3 rd race 30	Race 50	3 rd race 44		
	3 rd race 9		2 nd race 17		2 nd race 39		
	3 rd race 12		1 st race 18		1 st race 33		
	4 th race 11		4 th race 29		2 nd race 40		
Race 24	4 th race 14	Race 40	3 rd race 32	Race 50	3 rd race 44		
	3 rd race 13		2 nd race 19		2 nd race 39		
	3 rd race 16		1 st race 20		1 st race 33		
	4 th race 15		4 th race 31		2 nd race 40		
Race 25	4 th race 17	Race 41	3 rd race 33	Race 51	2 nd race 46		
	3 rd race 17		2 nd race 24		1 st race 45		
	3 rd race 18		1 st race 25		1 st race 50		
	4 th race 18		4 th race 34		2 nd race 49		
Race 26	4 th race 19	Race 42	3 rd race 34	Race 52	2 nd race 47		
	3 rd race 19		2 nd race 25		1 st race 46		
	3 rd race 20		1 st race 26		1 st race 49		
	4 th race 19		4 th race 35		2 nd race 48		
Race 27	4 th race 20	Race 43	3 rd race 35	Race 53	2 nd race 45		
	3 rd race 20		2 nd race 26		1 st race 47		
	3 rd race 21		1 st race 27		1 st race 48		
	4 th race 20		4 th race 36		2 nd race 50		
Race 28	4 th race 21	Race 44	3 rd race 36	Race 54	2 nd race 51		
	3 rd race 21		2 nd race 27		1 st race 52		
	3 rd race 22		1 st race 28		2 nd race 53		
	4 th race 21		4 th race 37		1 st race 55		
Race 29	4 th race 22	Race 45	3 rd race 37	Race 55	2 nd race 52		
	3 rd race 22		2 nd race 28		1 st race 51		
	3 rd race 23		1 st race 29		2 nd race 55		
	4 th race 22		4 th race 38		1 st race 53		