# FAI Sporting Code

*Fédération Aéronautique Internationale*

## Section 4 – Aeromodelling

# Volume F6
# Airsports Promotion Classes for Model Aircraft

2010 Edition

Effective 1st January 2010

No change to 2009 Edition

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1 FAI Statutes, Chapter 1, para. 1.6

2 FAI Sporting Code, General Section, Chapter 3, para 3.1.3

3 FAI Statutes, Chapter 1, para 1.8.1

4 FAI Statutes, Chapter 2, para 2.1.1; 2.4.2; 2.5.2; 2.7.2

5 FAI Bylaws, Chapter 1, para 1.2.1

6 FAI Statutes, Chapter 2, para 2.4.2.2.5

7 FAI Bylaws, Chapter 1, para 1.2.3

8 FAI Statutes, Chapter 5, para 5.1.1; 5.5; 5.6

9 FAI Sporting Code, General Section, Chapter 3, para 3.1.7

10 FAI Sporting Code, General Section, Chapter 1, paras 1.2. and 1.4

11 FAI Statutes, Chapter 5, para 5.6.3

12 FAI Bylaws, Chapter 1, para 1.2.2

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# VOLUME F6

## SECTION 4C – MODEL AIRCRAFT – F6 – AIRSPORTS PROMOTION CLASSES

## THIS 2010 EDITION INCLUDES THE FOLLOWING AMENDMENTS MADE TO THE 2009 CODE

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

| Paragraph | Plenary meeting approving change | Brief description of change | Change incorporated by |
|---|---|---|---|
| n/a | n/a | There were no changes at the 2009 Plenary Meeting | n/a |
| 6.1.2.4, 6.2.2 | n/a | Consequential change referring to ABR B.3.1. a) re-numbering. | Technical Secretary |

| Four-Year Rolling Amendments for Reference | | | |
|---|---|---|---|
| **Paragraph** | **Plenary meeting approving change** | **Brief description of change** | **Change incorporated by** |
| n/a | 2008 | F6A now includes helicopters and jets | Jo Halman Technical Secretary |
| n/a | | F6C is now defunct | |
| n/a | | Note that there are changed paragraph numbers in many places. | |
| 6.1 | | To include helicopters. | |
| 6.11 | | To include helicopters. | |
| 6.1.2.2 | | Jet powered aircraft specifications | |
| 6.1.2.3 | | Helicopter specifications | |
| 6.1.2.4 | | Re-arranged paragraphs and added 2.4GHz | |
| 6.1.4.1 – 6.1.4.6 | | Number of rounds: new text | |
| 6.1.5 Note | | Take-off time reduced to 60 seconds | |
| 6.1.6 | | Re-worded | |
| 6.1.7 | | Additional text | |
| 6.1.8.1 | | Scores to be made public immediately | |
| 6.1.8.2 | | New paragraph for qualification and finals flights | |
| 6.1.9.1 – 6.1.9.8 | | Classification – all new | |
| 6.1.10.1 | | Some changed text | |
| 6.1.10.2 | | Some changed text | |
| 6.1.11.1 | | Competitor's responsibility to be ready to start | |
| 6.1.11.2 | | Starting within 60 seconds | |
| 6.1.11.3 | | Was 6.1.11.4 and some added text | |
| 6.1.11.4 | | Was 6.1.11.5 | |
| 6.1.11.5 | | Was 6.1.11.6 | |
| 6.1.11.6 | | Was 6.1.11.7 | |
| 6.2.7.4 | | Added a second paragraph | |
| 6.2.7.7 | | New paragraph | |
| 6.2.8.3 | | Added text | |
| 6.2.9.1 | | Competitor's responsibility to be ready to start | |
| 6.2.9.2 | | Start of music now 15 seconds | |
| 6.2.10.1 | | Take-off within 15 seconds | |
| 6.2.11.1.2 | | Added a new second paragraph | |
| 6.4.2 | | Addition of spread spectrum modulation systems otherwise three frequencies to be supplied | |
| 6.4.6 | | Changed text for semi-finals and finals | |
| Annex F6-1 | | New annex: music publication guide | |
| Annex F6A-1 | | New annex: Artistic Aerobatics score sheet | |
| Annex F6A-2 | | New annex: Artistic Aerobatics music information | |
| Annex F6A-3 | | New annex: Artistic Aerobatics judges' guide | |
| Annex F6A-4 | | New annex: Artistic Aerobatics organiser's guide | |
| Annex F6B-1 | | New annex: AeroMusicals score sheet | |
| Annex F6B-2 | | New annex: AeroMusicals music information | |
| Annex F6B-3 | | New annex: AeroMusicals judges' guide | |

**Four-year Rolling Amendments for Reference**…/cont

| Four-Year Rolling Amendments for Reference | | | |
|---|---|---|---|
| **Paragraph** | **Plenary meeting approving change** | **Brief description of change** | **Change incorporated by** |
| Annex F6B-4 | n/a | New annex: AeroMusicals organiser's guide | Guy Revel |
| 6.1.10.3 | | Second paragraph reference corrected to 6.1.10.2 | |
| 6.3.10.3 | | Second paragraph reference corrected to 6.3.10.2 | |
| Throughout | | Deleted "(or her)" to follow the convention regarding gender stated in the ABR volume | Technical Secretary |
| 6.4.6 | 2006 | New fly-off task | Tomas Bartovsky |
| 6.4.7 | | | |
| 6.4.8.3 | | | |

## RULE FREEZE FOR THIS VOLUME

With reference to paragraph A.12 of Volume ABR:

In all classes, the two-year rule for no changes to model aircraft/space model specifications, manoeuvre schedules and competition rules will be strictly enforced, but in step with the World Championship cycle of each category.

Volume F6 contains only provisional classes and is not, therefore, subject to this restriction.

The only exceptions allowed to the two -year rule freeze are genuine and urgent safety matters, indispensable rule clarifications and noise rulings.

# VOLUME F6

# RADIO CONTROL FREESTYLE AEROBATICS TO MUSIC

## 6.1. CLASS F6A – ARTISTIC AEROBATICS

### 6.1.1 Definitions of an Artistic Aerobatics Aircraft

A model airplane that is aerodynamically manoeuvred by control surface(s) in attitude, direction and altitude by a pilot on the ground using radio control, or a helicopter.

An R/C helicopter is a heavier-than-air model aircraft that derives all of its lift and horizontal propulsion from a power driven rotor system(s) rotating about a nominally vertical axis (or axes). Fixed horizontal supporting surfaces up to 4 percent of the swept area of the lifting rotor(s) are permitted. A fixed or controllable horizontal stabiliser of up to 2% of the swept area of the lifting rotor(s) is permitted. Ground effect machines (hovercraft), convertiplanes or aircraft that hover by means of propeller slipstream(s) deflected downward are not considered to be helicopters.

### 6.1.2 General characteristics of Radio Controlled Artistic Aerobatics Airplanes:

Maximum overall span: ..... 2 m

Maximum overall length: ..... 2 m

Maximum total weight: ..... 5 kg without fuel

Power source limitations: any suitable power source may be utilised except those requiring solid propellants, gaseous or liquefied gaseous fuels. Electric powered aircraft are limited to a maximum of 42 Volts for the propulsion circuit.

### 6.1.2.2. Jet-powered aircraft:

Minimum overall wing span: ..... 1.80 m

Maximum total weight: ..... 15 kg without fuel

Maximum nominal engine thrust: 150 N

### 6.1.2.3. Helicopter

Maximum rotor swept area: ..... 300 $dm^2$

**Note**: The swept area of the lifting rotor cannot exceed 300 $dm^2$. For helicopters with multiple rotors whose rotor shafts are more than one rotor diameter apart the total swept area of both rotors cannot exceed 300 $dm^2$. For helicopters with multiple rotors whose rotor shafts are less than one rotor diameter apart the swept area of both rotors (counting the area of superposition only once) cannot exceed 300 $dm^2$.

Maximum total weight: ..... 6 kg without fuel

An electronic rate gyro is permitted on the yaw axis only.

All-metal main or tail rotor blades are prohibited.

6.1.2.4. Paragraph B.3.1 a) of Section 4b (Builder of Model) is not applicable to class F6A.

Radio equipment shall be of the open loop type (i.e. no electronic feedback from the aircraft to the ground). Auto-pilot control utilising inertia, gravity or any type of terrestrial reference is prohibited. Automatic control sequencing (pre-programming) or automatic control timing devices are prohibited. It is highly recommended to use the 2.4 GHz RC systems to improve substantially the safety of flying in front of the spectators.

*continued overleaf*

Example:

Permitted:

- Control rate devices that are manually switched by the pilot.
- Any type of button or lever control that is initiated and terminated by the pilot.
- Manually operated switches to couple control functions.

Not permitted:

- Snap buttons with automatic timing mode.
- Pre-programming devices to automatically perform a series of commands.
- Auto-stabilisers ( “gyros” ) for automatic wing levelling.
- Propeller pitch change with automatic timing mode.
- Any type of voice recognition system.
- Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.

### 6.1.3. Definition and Number of Helpers

A helper may be a Team Manager, another competitor or an officially registered helper. Each pilot is permitted one helper during the flight. Two helpers may be present during the starting of the motor(s). The second helper may place the aircraft for take-off and retrieve the aircraft following the landing.

### 6.1.4. Number of Rounds

6.1.4.1. The competition consists of one or several qualifying rounds leading to a final round. The starting order for the initial round is established by the Organiser according to any suitable criterion. It is suggested that the starting order be established in reverse order of the competitors skill ranking (established by any generally accepted means) so as to increase the spectators' interest from the beginning to the end of the round.

6.1.4.2. For each competitor, a qualification round consists of one Music Free Style flight. A final round consists of one Music Compulsory and one Music Free Style flights.

6.1.4.3. All pilots are entitled to fly the first qualifying round. If there is a second qualification round, it will be open to no more than the top 80 % competitors. The number of competitors accessing the second round shall be determined by the Organiser before the beginning of the competition, and preferably in the preliminary competition information bulletin, according to the number of competitors and the time available. If more than two qualification rounds are flow, the Organiser shall similarly decrease the number of pilots accessing any subsequent round.

6.1.4.4. The final round shall be open to no more than the top 5 remaining competitors. The number of competitors accessing the final round shall be determined by the Organiser before the beginning of the competition, and preferably in the preliminary competition information bulletin, according to the number of competitors and the time available.

6.1.4.5. At the Organiser's discretion, access to any following round except the last one may be split into direct qualification for most of the competitors and indirect qualification for up to three (3) additional competitors to fill up the originally planned number for that round. In this case, all pilots not directly qualified may take part in an additional round to select the last qualified competitors.

6.1.4.6. The Organiser shall set up and display for each round a timetable stating the time each competitor will be allowed to start his flight.

### 6.1.5. Definition of an attempt

There is an attempt when the competitor is given permission to start.

**Note:** If the competitor fails to take off (lift off) within the 60 seconds allowed, he must immediately make room for the next competitor.

### 6.1.6. Number of attempts

Each competitor is entitled one attempt for each official flight.

**Note:** An attempt can be repeated at the contest director's discretion only when, for any unforeseen reason outside the control of the competitor, the aircraft fails to start (e.g. there is radio interference). Similarly, in a flight that is interrupted by any circumstance beyond the control of the competitor (e.g. sudden rainfall, music broadcast malfunction, etc.) , the competitor is entitled a re-fly.

### 6.1.7. Definition of an official flight

There is an official flight when an attempt is made, whatever the result.

Manoeuvres must be performed where they can be clearly seen by the judges.

If an aircraft is, in the opinion of the judges or the Contest Director, unsafe or being flown in an unsafe manner, they have to instruct the flight marshall who will command the pilot to land. In this case, the flight will be deemed complete.

### 6.1.8. Marking

### 6.1.8.1. Judges

All flights shall be judged by a panel of at least 3, and preferably 5, judges. The scores of all judges shall be taken into account.

The score given by each judge for each competitor shall be made public immediately at the end of each flight.

### 6.1.8.2. Qualification and Finals flights

Each flight may be awarded marks, in half point increments by each of the judges and for each judging criterion. Judging shall be done on:

- Technique (difficulty and precision of the individual manoeuvres) ;
- Artistic quality (originality, harmony & rhythm, composition and versatility of the entire flight sequence, adhesion to the music) ;
- Overall appearance (use of the flight space, positioning of the manoeuvres and general impression).

Each judge may award a maximum of 30 points to each competitor. A judging guide shall define the judging criteria and their relative weights.

### 6.1.9. Classification

6.1.9.1. The score of a qualification or final round is the sum of the flight scores of that round.

6.1.9.2. The flight starting order at the beginning of any round after the first qualification round is in reverse order of the classification at the end of the preceding round.

6.1.9.3. The final classification is established according to the last round flown by the competitor and the classification in this round, in decreasing order from Final to initial Rounds and from highest score to the lowest.

6.1.9.4. In case of a tie, the ranking of the preceding round will prevail. If the tie remains, the sum of the scores of the last and preceding rounds will decide.

6.1.9.5. Provided this is specified in the competition announcement, the Organiser may elect to organise Airplane, Helicopter and Jet Artistic Aerobatics as a single competition with only one aircraft type or any combination of them with a common classification.

### 6.1.10. Tasks

#### 6.1.10.1. Music compulsory flights

These are flights where each competitor must compose his own sequence of manoeuvres to suit the compulsory music. Any manoeuvre may be flown, provided safety is ensured. Unsafe flying, in the opinion of the judges, shall result in a zero score.

The flights shall be judged for technique (precision and difficulty of the individual manoeuvres), artistic quality (composition of the complete sequence, variety of the manoeuvres, rhythm and adherence to the music) and overall appearance as detailed in 6.1.8.2. Excessive noise deters from the overall appearance and shall accordingly induce downgrading.

The music to be used may be chosen and prepared by the ad hoc sub-committee or the Organiser and must be available to the competitors three months in advance at the latest.

For finals, the duration of the compulsory music shall be between 100 and 140 seconds.

#### 6.1.10.2. Music free-style flights

These are flights where each competitor must compose his own sequence of manoeuvres to suit the music of his own choice. Any manoeuvre can be flown, provided safety is ensured. Unsafe flying, in the opinion of the judges, shall result in a zero score.

The flights shall be judged for technique, artistic quality and overall appearance as detailed in 6.1.8.2.. Excessive noise deters from the overall appearance and shall accordingly induce downgrading. A judging guide may define the judging criteria and their relative weights.

The music shall be chosen by each competitor according to his own taste. The music shall be composed of alternating slow and faster tempo segments so as to enable the competitor to display the widest possible range of manoeuvres and mood impressions. The competitor must provide the Organiser with a record of the chosen music on CD, tape or any other suitable support specified by the Organiser in the original invitation document. Details of the music used (composer, performer, CD label, etc.) shall be supplied to the Organiser for Public Performance Rights collection purpose.

For qualification flights, the music shall be of 120 seconds duration. When several qualification rounds are scheduled, the competitor may elect flying a different music and/or manoeuvre sequence for any one of such flights.

When the finals are limited to 2 or 3 competitors, the Organiser may elect to run the previous round ( “semi-finals” ) with 240 seconds music pieces. The number of competitors entered in such semi-finals shall not exceed 5.

For finals, the music shall be of 240 seconds duration.

Music duration variations up to plus or minus 5 (five) seconds are allowed. The scored part of the flight begins at the moment the music starts and ends at the moment the music comes to an end.

### 6.1.11. Timing procedures

6.1.11.1 It is the competitor's responsibility to check the timetable and make sure he is ready to start at the prescribed time. He may be handed out his transmitter at any time as allowed by the Transmitter Impound Steward, but no later than the prescribed starting time of the previous competitor.

6.1.11.2 Once allowed to enter the flight area and with permission from the Field Marshall, the competitor or his helper may start his engine(s). The start of the take-off roll (the moment the aircraft moves under its own power) or lift-off shall occur no later than 60 seconds after the moment permission has been given to start the engine(s).

6.1.11.3 During Music Compulsory and Music Free-Style flights, the competitor may elect to start his scored sequence (start of the music) at any time from the moment of the start of the take off roll (or lift off) until 30 seconds after this moment. He must express his choice to the Judges and timekeeper before the beginning of his flight and signal to the Steward the moment he wants the music to start. If he fails to signal this moment, the Steward will start the music 30 seconds after the start of the take off roll (or lift off).

6.1.11.4 During Music Compulsory flights, scoring by the judges ceases, at the choice of the competitor, at landing or in flight. Whatever the choice, scoring stops at the moment the music stops.

6.1.11.5 During Music Free Style flights, scoring by the judges ceases at the moment the prescribed music duration comes to an end. At the choice of the competitor, this may occur at landing or in flight. Whatever the choice, scoring stops at the moment the music stops.

6.1.11.6 If the competitor elects ending his scored sequence while in flight, he must land his aircraft (the moment the aircraft first touches the ground on the designated landing area) within 30 seconds of the end of the scored sequence.

**6.1.12 Time penalties**

6.1.12.1. If the competitor fails to take off within the time allowed, the flight is scored 0 (zero).

6.1.12.2. If the competitor fails to begin the scored sequence within the time allowed, the flight is scored 0 (zero).

6.1.12.3. If the competitor fails to land within the time allowed after the end of the scored sequence, the flight is scored 0 (zero).

6.1.12.4. If the freestyle music lasts less or more than the prescribed duration, the flight score shall be reduced accordingly.

**6.1.13. Junior and National Team participation**

6.1.13.1 When at least 5 Junior competitors are competing, there shall be a separate Junior classification. Whenever possible, the Organiser should try organising separate flight groups for them.

6.1.13.2. National Teams, when applicable, shall consist of up to eight (8) competitors from the same Nation.

6.1.13.3. A National Teams classification shall be established, taking into account the scores of the three (3) top ranking competitors from each Nation.

6.1.13.4. National Junior Teams, when applicable, shall consist of up to five (5) competitors from the same Nation.

6.1.13.5. A National Junior Teams classification shall be established, taking into account the scores of the three (3) top ranking Junior competitors from each Nation.

6.1.13.6. The scores to be taken into account for Team classification shall be the final score of the competitors.

6.1.13.7. Results of Consolation Rounds shall not be taken into account for National Team classification.

## 6.2. CLASS F6B – AEROMUSICALS

### 6.2.1 Definitions

6.2.1.1 Definition of an AeroMusicals competition

A competition in which pilots perform flights to music to express their piloting and artistic skills. The performance is judged on variety, precision and expressiveness.

There are three sub-classes according to the competition site:

- Sub-class A (indoor): for performance in restricted indoor halls
- Sub-class B: for performance in large indoor sport arenas or small-size outdoor sporting places
- Sub-class C: for performance in medium-size outdoor locations.

6.2.1.2 Definition of an AeroMusicals aircraft

An electric-powered model aircraft, but not a helicopter, that is aerodynamically manoeuvred by control surface(s) in attitude, direction and altitude by a pilot on the ground using radio control,.

### 6.2.2 General Characteristics of Radio Controlled AeroMusicals Aircraft:

Maximum total weight:

- Sub-class A: 500 g
- Sub-class B: 1000 g
- Sub-class C: 2000 g

Power source limitations: any suitable electric power source may be utilised. Batteries are limited to a maximum of 42 Volts for the propulsion circuit.

For better visibility, brightly decorated aircraft are recommended.

AeroMusicals Aircraft shall be controlled with commercially available radio control equipment. There are no restrictions on the number of control functions or auxiliary equipment. No other restrictions apply.

Paragraph B.3.1 a) of Section 4b (Builder of Model) is not applicable to class F6B.

### 6.2.3. Definition and Number of Helpers

A helper may be a Team Manager, another competitor or an officially registered helper. Each pilot is permitted one helper during the flight.

### 6.2.4. Attempts

6.2.4.1. There is an attempt when the competitor is given permission to start. Take-off shall take place within one minute after that moment.

6.2.4.2. Each competitor is entitled only one attempt for each official flight

**Note:** An attempt can be repeated at the contest director's discretion only when, for any unforeseen reason outside the control of the competitor, the aircraft fails to start (e.g. there is radio interference). Similarly, in a flight that is interrupted by any circumstance beyond the control of the competitor (e.g. sudden light shut-off, music airing malfunction, etc.), the competitor is entitled a re-fly. The whole flight shall be re-flown and scored as a whole.

### 6.2.5. Definition of an official flight

There is an official flight when an attempt is made, whatever the result.

### 6.2.6. Definition of a Round

A Round consists of one flight for each competitor entitled to fly in that Round. The number of rounds is established by the Organiser according to the planned competition duration.

### 6.2.7. Number of Rounds

6.2.7.1. The competition shall be planned so as to limit the total duration. A competition duration from one hour up to no more than two hours is recommended.

6.2.7.2. The competition consists of one or several rounds leading to a final round. The starting order for the initial round is established by the Organiser according to any suitable accepted criterion. It is suggested that the starting order takes into account the competitors skill ranking (established by any generally accepted mean) so as to increase the spectators' interest from the beginning to the end of the round.

6.2.7.3. All pilots are entitled to fly the first round.

6.2.7.4. At the conclusion of each round, only the best ranking competitors are entitled to take part in the following round. The number or percentage of competitors flying in any following round is defined by the Organiser according to the expected competition duration.

At the Organiser's discretion, access to any following round except the last one may be split into direct qualification for most of the competitors and indirect qualification for up to three (3) additional competitors to fill up the originally planned number for that round. In this case, all pilots not directly qualified may take part in an additional round to select the last qualified competitors.

6.2.7.5. The starting order for any round after the initial one is in reverse order of the classification at the conclusion of the last complete round.

6.2.7.6. The last round is called "Finals" with a limited number of competitors, preferably 2 (two) or 3 (three).

6.2.7.7. The Organiser shall set up and display for each round a timetable stating the time each competitor will be allowed to start his flight.

### 6.2.8 AeroMusicals flights

6.2.8.1. These are flights where each competitor must compose his own sequence of manoeuvres to suit the music of his own choice. Any manoeuvre can be flown, provided safety is ensured. Unsafe flying, in the opinion of the judges, shall result in a zero score.

6.2.8.2. The flights shall be judged for technique, artistic quality, variety, compliance with the chosen music and overall appearance. A judging guide defines the judging criteria and their relative weights.

6.2.8.3. The music shall be chosen by each competitor according to his own taste. The music shall be composed of alternating slow and faster tempo segments so as to enable the competitor to display the widest possible range of manoeuvres and mood impressions. The competitor must provide the Organiser with a record of the chosen music on CD, tape or any other suitable support specified by the Organiser in the original invitation document. Details of the music used (composer, performer, CD label, etc.) shall be supplied to the Organiser for Public Performance Rights collection purpose.

6.2.8.4. The music shall be of 120 seconds duration. The competitor may elect to fly a different manoeuvres sequence and/or to a different music for any flight.

6.2.8.5. For Finals, at the Organiser's discretion the music may be of 240 seconds duration, provided this is specified in the initial competition invitation bulletin.

6.2.8.6. Music duration variations up to plus or minus 5 (five) seconds are allowed. The scored part of the flight begins at the moment the music starts and ends at the moment the music comes to an end.

**6.2.9. Timing procedures**

6.2.9.1. It is the competitor's responsibility to check the timetable and make sure he is ready to start at the prescribed time. He may be handed out his transmitter at any time as allowed by the Transmitter Impound Stewart but no later than the prescribed starting time of the previous competitor.

6.2.9.2. Once the competitor is given permission to start, he signals to the Steward the moment he wants the music to start. If he fails to signal this moment, the Steward will start the music 15 seconds after the permission to start has been given.

6.2.9.3. Scoring by the judges begins when the music starts and ceases at the moment the music stops. At the choice of the competitor, the end of the scored flight may occur at landing or in flight. If in flight, the competitor must land his aircraft quickly thereafter.

**6.2.10. Time penalties**

6.2.10.1. If the competitor fails to take off within 15 seconds after being given permission to start, the flight is scored 0 (zero).

6.2.10.2 If the freestyle music lasts less or more than the prescribed duration, the flight score shall be reduced accordingly.

**6.2.11. Scoring**

6.2.11.1. Judging

6.2.11.1.1. In general, all flights shall be judged by a panel of at least 3, and preferably 5, judges. The scores of all judges shall be taken into account.

6.2.11.1.2. Each flight may be awarded marks, in half point increments by each of the judges and for each judging criterion as defined in the Judging Guide.

Each judge may award a maximum of 30 points to each competitor. A judging guide shall define the judging criteria and their relative weights.

6.2.11.1.3. The score awarded by each judge shall be displayed immediately after each flight.

6.2.11.1.4. When the Final Round involves only two competitors, the Organiser may elect to have the winner elected by the spectators, provided this is clearly stated in the initial competition invitation bulletin. In this case, if the result of the spectators vote is not clearly decisive, the panel of judges shall have the decisive vote.

**6.2.12. Classification**

6.2.12.1. All competitors are entitled to compete in the first round.

6.2.12.2. Scores are not carried over from one round to the following one.

6.2.12.3. The final classification is established according to the last round flown by the competitor and the classification in this round, in decreasing order from Final to initial Rounds and from highest score to the lowest.

## 6.4. CLASS F6D – HAND THROWN GLIDERS

### 6.4.1 General

A contest where RC gliders must be hand thrown to altitude. The organiser must provide a sufficient number of timekeepers in order to allow enough simultaneous flights at all time. In principle, each competitor is allowed one helper who should not become physically involved in the flight. Handicapped persons may ask their helpers for assistance at launching and retrieving (catching) their glider.

The organiser should provide a transmitter impound where all transmitters are kept in custody while not in use during a flight or the corresponding preparation time.

### 6.4.2. Definition of hand thrown gliders

Motorless model aircraft, with the following limitations.

- Wingspan max. ..... 1500 mm
- Weight max. ..... 600 g

Radius of the nose, minimum 5 mm in all orientations (see F3B nose definition for measurement technique).

The hand thrown glider must be launched by hand and are controlled by radio equipment acting on an unlimited number of surfaces.

The hand thrown glider can be equipped with holes, pegs or reinforcements, which allow better grip of the model aircraft by hand. The pegs must be stiff and remain a firm part of the model, neither extensible nor retractable. Devices, which do not remain a part of the model during and after the launch, are not allowed.

The competitor may at any times change his model aircraft as long as they conform to the specifications and are operated at the assigned frequency.

Unless a spread spectrum modulation system is used, each competitor must provide a sufficient number of frequencies, at least three, on which his model aircraft may be operated to allow the organiser to set up flight groups and the organiser may assign any of these frequencies for the duration of any round or the complete contest.

### 6.4.3. Definition of the flying field

The flying field should be reasonably level and large enough to allow several model aircraft to fly simultaneously. The main source of lift should not be slope lift. The organiser must define the launching and landing area before the start of the contest and all launching and landings should happen within this area. Any launch or landing outside this area is scored zero for the flight.

A typical launching and landing area could be a rectangle 100m x 50m oriented with longer side perpendicular to the wind direction.

### 6.4.4. Definition of landing

A landing is considered valid if:

- the glider comes to rest and at least one part of it touches the launching and landing area;
- the competitor catches the glider by hand (or if competitor is handicapped, his helper, if launching was made by this person), while standing with both feet inside the launching and landing area.

### 6.4.5. Flight time

The flight time is measured:

- At task 1 from the moment the glider leaves the hands of the competitor
- At task 2 from the end of the launching interval

The flight time is measured to the moment the glider comes to rest on the ground or ground based object or the competitor catches the glider by hand or the working time expires. One point will be awarded for each full second the glider is flying, up to the given maximum flight time One point will be deducted for each full second flown in excess of given maximum flight time.

The flight time is official if the launching happens from inside the launching and landing area and the landing happens inside this area.

### 6.4.6. Organisation of rounds

The competitors are arranged in groups. A group should be a minimum of 5 pilots. The contest is organised in qualifying, semi-final and fly-off rounds.

At qualifying rounds the tasks 1 and 2 are flown. The start and end of the working time are announced with a sound-signalling device. The results are normalised within each group, 1000 points being the basis for the winner of the group.

To the semi-final rounds the best pilot from each qualifying group proceeds. Other pilots, up to the number of 24, proceed to semi-final according to their normalised results. In case of tie at last proceeding places a draw decides.

At semi-final the pilots fly task 2 in three groups (or two groups if the number of qualified pilots is less than 15).

To the final (fly-off) group the best pilot from each semi-final group proceeds. Other pilots proceed to final according to their normalised results. In case of tie at last proceeding places, the pilot with better result from qualifying round proceeds.

At fly-off eight pilots fly in one group. All pilots with non zero score proceed to the following round. Usually the number of pilots is reduced by one at each consecutive round, so that at the last round only two pilots compete for the total winner. If in any round all pilots get zero or maximum score the round is repeated. For each round, the competitors receive at least 2 minutes preparation time, as announced by the organiser. During the preparation time, the competitor is allowed to turn on and check his radio, but is not allowed any launch of his glider, either outside or inside the launching and landing area.

### 6.4.7. Total winner

The winner is the pilot with best result from the last round at which two pilots were flying. The third place gets the pilot who has been flying in the last but one round...>

### 6.4.8 Tasks

6.4.8.1. Task 1 “Last flight”:

During the working time, the competitor may launch the glider an undefined number of times, but only the last flight is taken into account to determine the final result. The length of the flight is limited to 5 minutes. Any additional release of the glider annuls the preceding timing. When the competitor announces that he has completed his last flight (his official flight for this task), he must leave the launching and landing area, together with his timekeeper.

Working time - 7 minutes.

6.4.8.2. Task 2 “All up”:

All competitors of a group must launch their gliders simultaneously, within 3 seconds. The signal for launching comprises from three short beeps each second and a continuous tone lasting three seconds. During continuous tone the glider has to leave the hand of the pilot. Releasing the glider earlier or later results in zero score for this flight. Maximum flight time is 3 minutes. Each flight time of the 3 attempts of each competitor is to be added up and will be normalised to obtain the final score for this task.

| | | | |
|---|---|---|---|
| Example: | Competitor A: | 45+50+35 s = 130 s = | 812.50 points |
| | Competitor B: | 50+50+60 s = 160 s = | 1000.00 points |
| | Competitor C: | 30+80+40 s = 150 s = | 937.50 points |

**6.4.8.3. Task for fly-off rounds**

All competitors of a group must launch their model aircraft simultaneously, within a three second period. The signal for launching comprises a three second countdown with a single beep for each of those three seconds and a continuous tone lasting three seconds. During the continuous tone the model aircraft has to leave the hand of the pilot. Releasing of the model earlier or later results in zero score for this flight. Maximum flight time is 3 minutes.

When the first model lands or at three minutes flight time a thirty seconds interval starts. All models must land within these thirty seconds.

The pilot whose model landed first receives a zero score or a pilot who released his model before or after the three seconds interval for launching or whose model landed outside the landing area or landed after the thirty seconds interval receives a zero score too.

*Annexes F6 – 1 to F6B – 4 begin overleaf*

# ANNEX F6 -1

## MUSIC PUBLIC PERFORMANCE GUIDE

## Artistic Aerobatics & AeroMusicals

Playing music in public, live or recorded, is subject to copyright regulations. It is up to the event Organiser to apply to the proper organisation and pay the appropriate fees.

Music as well as songs, lyrics, etc is subject to copyright and cannot be circulated, duplicated or played at will except for “private use”, ie by and for the owner of the record and within the “family circle”. Payment of rights applies to public performance, be it for free or against payment. By exception, no rights have to be paid when the work has fallen into the public domain.

In general, this applies:

a) For the work itself, 70 years after the death of the composer or writer;

b) For the performance, 30 years after the performance/recording. Except in such cases, rights have to be paid to the right owners whenever a music (recording) is played outside of the “family circle” (“public performance”).

However, copyright laws vary from country to country and it is the Organiser’s responsibility to check these laws in the host country.

The same rules apply at AeroMusicals events as whenever music is played at model shows, demos, etc. Rights have to be paid by the Event Organiser, not the competitor. The implication is that competitors may choose and use any music they want, their only responsibility being to produce a detailed list of the music pieces (or extracts, whatever the length) to allow final payment of rights to the proper owners.

In practice a blanket fee has to be paid to the National Rights Collecting Agency. It is a very simple procedure requiring practically no paperwork and usually quite inexpensive. Actual royalty fees vary from country to country. For a rather nominal amount, the Event Organiser acquires the right to play at the event location (flying field or indoor hall) any music he wishes, all day long.

Usually the Organiser will send to the National Rights Collecting Agency, after the event took place, a list of the music pieces that have been played. This is why it is recommended that the competitors hand in to the Organiser the “Music Summary Form” that describes the music they use during their flights.

**MUSIC PUBLIC PERFORMANCE ORGANISATIONS**

| | | |
|---|---|---|
| Argentina | **SADAIC** | http://www.sadaic.org.ar |
| Armenia | **ARMAUTHOR** | www.hayastan.com/armauthor |
| Australia | **APRA** | www.apra.com.au |
| Austria | **AKM** | www.akm.co.at |
| Belarus | **BELAT** | http://eng.avtor.by/belat |
| Belgium | **SABAM** | www.sabam.be |
| Bosnia/ Herzegovina | **SQN** | http://www.sqn.ba |
| Brazil | **UBC** | www.ubc.org.br |
| Brazil | **SBACEM** | www.sbacem.org.br |
| Bulgaria | **MUSICAUTOR** | www.musicautor.org |
| Canada | **SOCAN** | www.socan.ca |
| Chile | **SCD** | www.scd.cl |
| China | **MCSC** | www.mcsc.com.cn |
| Chinese Taipei | **MUST** | www.must.org.tw |
| Columbia | **SAYCO** | www.sayco.org |

| | | |
|---|---|---|
| Costa Rica | **ACAM** | www.acamcostarica.com |
| Croatia | **HUZIP** | www.huzip.hr |
| Cuba | **ACDAM** | www.acdam.cu |
| Czech Republic | **OSA** | www.osa.cz |
| Denmark | **KODA** | www.koda.dk |
| Ecuador | **SAYCE** | matriz@porta.net |
| Estonia | **EAU** | www.eau.org |
| Finland | **TEOSTO** | www.teosto.fi |
| France | **SACEM** | www.sacem.fr |
| Georgia | **GESAP** | gesapgeo@netscape.net |
| Germany | **GEMA** | www.gema.de |
| Greece | **AEPI** | www.aepi.gr |
| Hong Kong | **CASH** | www.cash.org.hk |
| Hungary | **ARTISJUS** | www.artisjus.hu |
| Iceland | **STEF** | www.stef.is |
| India | **IPRS** | www.iprs.org |
| Indonesia | **KCI** | www.kci.or.id |
| Ireland | **IMRO** | www.imro.ie |
| Israel | **ACUM** | www.acum.org.il |
| Italy | **SIAE** | www.siae.it |
| Japan | **JASRAC** | www.jasrac.or.jp |
| Kazakhstan | **KAZAK** | *Kazakh Authors' Society*<br>*Telephone (73 272) 67 79 02* |
| Latvia | **AKKA/LAA** | www.akka-laa.lv |
| Liechtenstein | **SUISA** | www.suisa.ch |
| Lithuania | **LATGA-A** | www.latga.lt |
| Macedonia | **ZAMP** | www.zamp.hr |
| Malaysia | **MACP** | www.macp.com.my |
| Mexico | **SACM** | www.sacm.org.mx |
| Montenegro | **SOKOJ** | sokoj@eunet.yu |
| Netherlands (The) | **BUMA** | www.bumastemra.nl |
| New Zealand | **APRA** | www.apra.co.nz |
| Norway | **TONO** | www.tono.no |
| Peru | **APDAYC** | www.apdayc.org.pe |
| Philippines (The) | **FILSCAP** | filscap@iconn.cim.ph |
| Poland | **ZAIKS** | www.zaiks.org.pl |
| Portugal | **SPA** | www.spautores.pt |
| Romania | **UCMR-ADA** | www.ucmr-ada.ro |
| Russian Federation (The) | **RAO** | www.rao.ru |

| | | |
|---|---|---|
| San Marino | **SIAE** | www.siae.it |
| Serbia | **SOKOJ** | sokoj@eunet.yu |
| Singapore | **COMPASS** | www.compass.org.sg |
| Slovakia | **SOZA** | www.soza.sk |
| Slovenia | **SAZAS** | www.sazas.org |
| South Africa | **SAMRO** | www.samro.org.za |
| South Korea | **KOMCA** | www.komca.or.kr |
| Spain | **SGAE** | www.sgae.es |
| Sweden | **STIM** | www.stim.se |
| Switzerland | **SUISA** | www.suisa.ch |
| Thailand | **MCT** | *Music Copyright (Thailand) Co., Ltd*<br>*Telephone: (662) 645.35.71/3* |
| Turkey | **MESAM** | www.mesam.org.tr |
| Ukraine | **UACRR** | www.uacrr.kiev.ua |
| United Kingdom | **PRS** | www.mcps-prs-alliance.co.uk |
| United States of America | **SESAC** | www.sesac.com |
| United States of America | **BMI** | www.bmi.com |
| United States of America | **ASCAP** | www.ascap.com |
| Uruguay | **AGADU** | www.agadu.org |
| Venezuela | **SACVEN** | www.sacven.org |

**ANNEX F6A - 1**

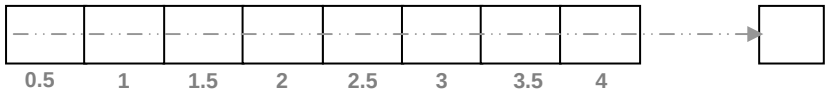
**ARTISTIC AEROBATICS SCORE SHEET**

# Artistic Aerobatics

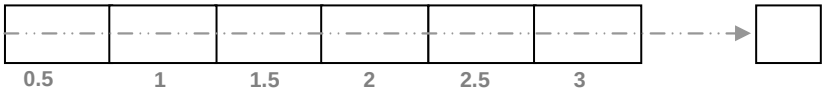
| Qualification 1 | Qualification 2 | Qualification 3 |
|---|---|---|
| Qualification 4 | Qualification 5 | Finals |

## Technique

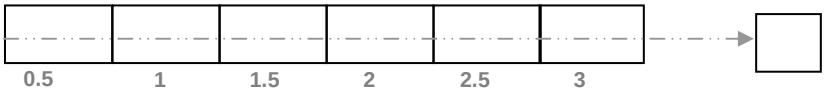
Execution precision




Use of the full range of the flight envelope

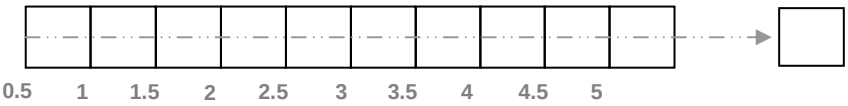



Versatility

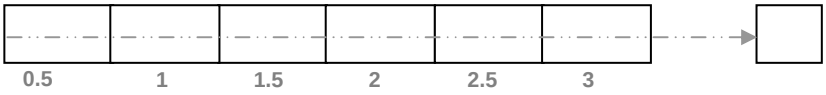



## Artistic Quality

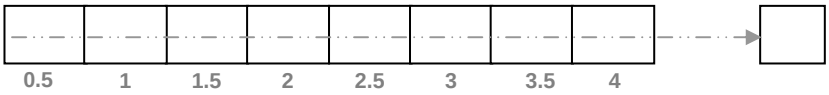
Synchronisation with music




Pleasing and continuous flow of figures




Contrasting periods of dynamic and graceful manoeuvres




## Overall Appearance

Use of the full performance zone flight space


Presenting figures in their best orientation


| Total Score | |
|---|---|

| Competitor: | Judge: |
|---|---|
| (signature): | (signature): |
| Date: | Organiser: |

**ANNEX F6A - 2**

**ARTISTIC AEROBATICS MUSIC INFORMATION**

# Artistic Aerobatics

## Music Information Form

Describe below the various elements you have assembled to produce your freestyle music. This will be used to inform spectators as well as credit the proper rights owners for public performance fees purposes.

**Complete one form for each different Freestyle Music**

**How to use:** For each component of your music, indicate the name of the composer & performer. Wherever possible state the title, label and serial number of the record that has been used.

Tick ✓ the appropriate box

| **Competitor:** | | | | | |
|---|---|---|---|---|---|
| **Qualification 1** | | **Qualification 2** | | **Qualification 3** | |
| **Qualification 4** | | **Qualification 5** | | **Finals** | |

Music Element 1: _____

_____

_____

Music Element 2: _____

_____

_____

Music Element 3: _____

_____

_____

Music Element 4: _____

_____

_____

Music Element 5: _____

_____

_____

Music Element 6: _____

_____

_____

Music Element 7: _____

_____

_____

Music Element 8: _____

_____

_____

| **Date:** | **Organiser:** |
|---|---|

# ANNEX F6A – 3

# ARTISTIC AEROBATICS JUDGES' GUIDE

## 1. PURPOSE

The purpose of the FAI Artistic Aerobatics Judges' Guide is to provide judges with some insight to assess the artistic and technical qualities of AA flights. Unlike the strive for perfection and precision of the FAI F3A and F3C classes of precision aerobatics, Artistic Aerobatics is designed to be a spectators and media-friendly event, and flights should be performed with entertainment in mind. Judges must look for flights to have an overall entertaining quality without compromising technical ability.

## 2. CRITERIA

The following judging criteria are used to assess the quality of Artistic Aerobatics flights. The scoring system already has a built-in weighting system. This means that judges should consider independently each of the criteria on a scale from zero to maximum score and not place a higher emphasis on, say, artistic quality and lesser emphasis on technique. Scoring is done in half-point increments.

### 2.1 Technique

- Precision and accuracy of the execution
- Use of the full range of the aircraft's flight envelope/characteristics
- Versatility

#### 2.1.1 Precision and accuracy

Technique has to do with the technical skills exhibited by the competitor. The manoeuvres and figures should be executed with precision and accuracy, with the competitor demonstrating that he has the aircraft under full control in all attitudes. It should be clear to the judges that the manoeuvres flown were, in fact, intended and fully under the pilot's control. Higher marks will be given under this heading when individual manoeuvre elements are started and finished on obviously precise headings and well-defined attitudes.

#### 2.1.2 Use of the full range of the flight envelope

Judges must satisfy themselves that the competitor makes full use of many different areas of the flight envelope of his aircraft. This means flying at the full range of speeds and accelerations possible. Both positive and negative parts of the envelope should be used in reference to both speed and acceleration. In the case of airplanes, the flight should preferably include the demonstration of controlled flight beyond the stall boundary by use of hovering, autorotation or other high-alpha manoeuvres.

The pilot is expected to show movement of the aircraft about all axes. Higher marks will be given to competitors able to make use of all these effects through a wide range of aircraft attitudes and flight paths. Repeated use of the same or similar attitudes or manoeuvres should result in a lower score for this category.

#### 2.1.3 Versatility

A combination of a wide variety of figures flown on different axes and flight paths. Many different figures should be completed in the time available. These should include manoeuvre elements of many different kinds and should use many different flight paths and axes. Lower marks should be given to a pilot who used only one or two principal axes of flight. However, the use of additional axes must be clear and precise, not giving the appearance of being used by chance. Marks should also be deducted if any particular manoeuvre element is over-used or continues for an excessive period of time.

## 2.2 Artistic quality

- Synchronisation with music
- Continuous flow of manoeuvres and figures
- Contrast

The artistic quality of a flight has to do with how well the competitor choreographed his flight.

The effective use of visual mood-enhancing devices such as ribbons, streamers, lights etc. should result in higher scores, provided their use is synchronised with the flight performance and music. These devices must not be incidental and must enhance the flight performance. Any malfunction of these devices should result in a lower score, unless deliberate and intentional jettisoning is used to create a more dramatic and spectacular effect.

### 2.2.1 Synchronisation with music

The difficulty of Artistic Aerobatics is for competitors to fly perfectly in harmony and rhythm with a musical arrangement they have selected themselves or that is imposed to them. The music must enhance and augment the flight, so that the right mood is created. Marks should be deducted in this category for a flight that shows no relation between the rhythm of the evolutions and the music, therefore transforming the musical accompaniment to simple background music.

### 2.2.2 Continuous flow of manoeuvres

The selection of only one piece of music with no discernable contrast, mood changes, or tempo, is an indication of lack of flair by the competitor and should be met with a lower score. Ideally a good compilation of differing pieces of music of contrasting rhythms and tempos that is matched by flight performances should score higher.

Judges should look for a continuous flow of manoeuvres and sequences that are well blended. Periods of inactivity or level flights between sequences of manoeuvres should result in lower scores than flights that have continuous, well-blended sequences.

### 2.2.3 Contrast

Typically, a high-scoring flight must have enough variation in pace and contrast in the music: dramatic, loud and lively passages in the music should be matched with energetic actions in the flight, with rapid rotations or changes in attitude and high-G manoeuvres. Conversely, less dramatic, softer and soothing passages in the music should be matched with manoeuvres and figures that contain graceful rolling, hovering, spinning and tumbling actions. Music that builds in tempo and volume, and reaches a crescendo, should be matched with vertical manoeuvres that end either high, or low, etc.

## 2.3 Overall appearance/impression

- Full use of performance zone
- Positioning

### 2.3.1 Full use of performance zone

The sequence should be centred on the judges position. Highest marks will be given when the sequence as a whole is balanced evenly in width, depth and altitude. Marks should be deducted if a programme is noticeably biased with all parts of the flight space volume not used to the same extend. The greater the degree of asymmetry, the lower should be the score.

### 2.3.2 Positioning of manoeuvres

Competitors should present individual figures in their best orientation and their optimum position. Judges should look for the optimum placement of manoeuvres and sequences where the most critical portions of manoeuvres can be evaluated. Figures can give different impressions when seen from different viewpoints.

Manoeuvres and figures should be performed so that they are easy to see and judge, the competitor making full and balanced use of the manoeuvring volume or performance zone. Dangerous and reckless flying, or flying an aircraft towards the spectators or the judges in an apparent uncontrollable manner, should be scored low in this category, even if the flight has technical merits and artistic quality. Judges should recognise the difference between showmanship and reckless flying.

## 3. JUDGING METHODS

It is advisable for judges to pencil in their marks/scores as a flight progresses, rather than having to wait until the end of a flight before an assessment is made in any of the criteria. By using this method, judges may be able to move up or down the scoring range as the flight unfolds, to arrive at a more accurate judgement. Continuous attention must be given to the three judging criteria during a flight.

The score sheet is designed in such a way that scores for any judging criteria are spread along the same length between zero and the maximum score for that specific criteria. As a result, the relative distance of the mark from the leftmost part of the score sheet is a direct indication of its relative value for that criteria, irrespective of the actual maximum possible score. This method enables quick scoring without resorting to K-factors and makes possible a public display of the flight scores within a very short time after the flight has been completed. In case a zero mark should be awarded, it may be directly written in the right-hand box.

### 3.1 Marks

Judges should always remember that the final classification is dependent upon the relative scores of the competitors and not the absolute value of the marks. The actual score is not important, the ranking is. One should always have the possibility to sanction a difference in performance with a wide enough score difference, specially taking into account that the specified starting order makes for successive competitors having roughly similar values and the top level competitors flying at the end of the round. As a result, judges should always keep in mind that later flying competitors may score higher and that it is more important separating the top placers than the last ranking pilots. To this purpose it is best to keep scores low enough for the first starting competitors to always keep some margin of improvement, should subsequent flights prove decidedly superior. Therefore, when in doubt, always score the lower mark.

## 4. ACCURACY, CONSISTENCY AND NON-BIAS

The scoring criteria are quite subjective and are not designed to follow strict qualitative judging standards. This should however not preclude judges from maintaining a consistent judging standard, even with the possibility of widely varying flight performances. Judges will see a wide selection of styles, indicating personal preferences, personality traits and individuality. For this reason, judges should not be biased, positively or negatively, towards a pilot, or particular type of aircraft, power plant, or music type (classical, jazz, pop, rock, choral, instrumental, etc.).

## 5. CLOSING

It should be remembered by judges that Artistic Aerobatics is designed to be attractive to the modern electronic media, and to the uninformed spectator to aeromodelling, to entertain him, and to ensure that he remains occupied, either at the flying site or in front of his visual medium. Flights should have enough entertainment value that will cause spectators to judge the flights for themselves, without having extensive background in qualitative judging methods. It should leave an impression of “competitor two had a more pleasing, impressionable and entertaining routine than competitor four”. However, the entertainment value of flights and the attractiveness to spectators and the media should not overshadow or detract from the very important aspect of the competitors achievements. After all, without the competitors, there won't be an event.

Using the judges guide will hopefully ensure that judges rank the competitors in the fairest possible order, thus generating widespread public appeal and acceptance of aeromodelling as a sport worthy of media coverage.

# ANNEX F6A - 4

# ARTISTIC AEROBATICS ORGANISER'S GUIDE

***This Organiser's Guide is meant to help Artistic Aerobatics organisers set up a smooth running competition with minimal work, limited need for helpers and stewards and proper exposition to spectators.***

## 1 Before the competition

Artistic Aerobatics is a competition where pilots fly their aircraft to music. This means the meet organiser is responsible for payment of any public performance fees that may be due. "Public performance" is to be understood as any music broadcast outside of the family circle.

In practice, this varies from country to country according to local regulations but is usually limited to paying a small blanket fee (possibly even nothing) according to many variables, i.e. whether the entrance is free or subject to payment, the number of spectators, etc.

One should get in touch with the Rights Collecting Agency (see "Music Public Performance Guide") as early as possible before the actual event (a minimum of 2 to 4 weeks is usually right) to obtain the necessary documents. Typically the form should be sent back within a week after the event.

## 2. Competitors check-in

When competitors arrive at the competition site, the Organiser shall:

(a) Check that the competitor holds a valid Sporting License (FAI Sporting Code, Section 4, Volume ABR § B.3.2.) and keep it in custody until the end of the competition ;

(b) Collect (if not done previously) the competitor's Entry form after checking that it is fully and accurately filled in (FAI Sporting Code, General Section § 3.12.1.) ;

(c) Collect the competitor's freestyle music CDs after checking that they are properly marked with the competitor's name and fitted with blank sticker(s) ;

(d) Check the competitor's CDs for proper music duration (see (3) – Time management).

## 3 Flight space setup

Whatever the actual space available, its actual size should be detailed in the preliminary competition documents so that competitors can adapt their flight routines before coming to the competition site. This includes, but is not limited to, take off area size and orientation, location and height of obstacles (trees, buildings, etc.) surrounding the take off area and within the defined flight space, safety line location and flight orientation relative to the sun, etc.

The judges panel should be located along the flight space median line to enable the best possible view of the whole flight space and proper communication with the Flight Marshall and the Music Stewart. The Organiser shall place the judges in such a way that they cannot be distracted by spectators, other people or events.

There is no need to locate the judges close to the pilot as, contrarily to airplane or helicopter precision aerobatics, the flight space is not defined with angular limits. Actually it is even beneficial to define a judges area further away, as this provides them with a better appreciation of the flight space as well as a view of the flight performance closer to what is actually seen by spectators. It is, however, necessary that the Organiser plans the setup in such a way as to enable quick and easy communication between flight line, judges and Contest Director.

The Organiser should make every effort to provide both competitors and spectators with the best possible sound system. It is necessary to make sure the operator (the Music Steward) has a full understanding of the available apparatus. Test well before the start of the competition to ensure error-free operation. Although the music system shall primarily be directed at spectators and judges (so, in effect, away from the pilot and flight line), it is essential that the competitor hears very clearly the music that drives his flight. This is best done with a small monitor located right behind him and directly linked to the master sound system.

The Organiser should make sure the sound system provides the proper uniformity over the whole area. It is essential that the competitor hears the music correctly and without distortion, but also judges and spectators, so as to enable them to precisely relate music and manoeuvres. In practice this means that one should try and place the audio speakers around the spectators area and centred on the pilot and judges. The audio speakers should be evenly placed along the spectators' line. Even if the competitor

did not do it when preparing his recorded music, it is highly recommended to set the audio system to mono.

Whatever the Music Steward's location, the Organiser should make sure of proper direct communication (preferably visual) between the competitor at his flight location, the Field Marshall and the Music Steward.

### 3.1 Ancillary space

Whenever possible, only the actual flight space and action should be in direct spectators view, keeping the competitors preparation space, transmitter impound, music management apparatus etc. out of view. While a display of models may be of interest to spectators, these models should preferably not be the competition models to be used during the round, so as to prevent distracting activity in the course of this round.

If deemed necessary, the transmitter impound shall be fitted with a device (scanner, spectrum analyser) that enables detection of radio interference. The competitor's preparation space shall preferably have mains plugs for competitors' use or charging facilities. A description of such facilities should be included in the competition invitation documents.

## 4 Time management

### 4.1 Timing procedures

Normally timing should not be necessary, provided the duration of each competitor's music is known. This is best checked at registration time before the actual competition starts. The easiest and quickest way is to do it with the help of a computer and a couple of small pieces of free software.

So as to avoid possible errors when playing competitors' music, request competitors to mark their name and put blank stickers on their CDs (NOT on the CD cases). The Organiser will use the stickers to write the competitor's starting order for each round, then make a pile of the CDs to be used for any round in the same order they are to be played. This procedure will greatly minimise any risk of error in the course of a round.

### 4.2 Checking the competitors' music duration

The principle is to “rip” the competitor's piece of music on the CD into a raw digital file (.WAV) and look at it with a music software to determine its duration. With some practice, no more than one minute is required to achieve this.

Although many commercial software is able to do it very efficiently, very simple and free software (“freeware”) are quite sufficient and even faster. As an example, from the many CD ripper software available, Express Rip13 is a very small piece of software able to produce a .wav file from an Artistic Aerobatics music CD in a couple of seconds.

To visualise audio files, we recommend Audacity14, a free, open source software very easy to use and available in several languages.

*cont/…*

[13] CD ripper (freeware) :

Express Rip by NCH Swift Sound (only 322 kb)

http://www.nch.com.au/rip/index_b.html?gclid=CJXdlNmR1IsCFSYSQgodrC_5aw

(direct download: http://www.nch.com.au/rip/ripsetup.exe )

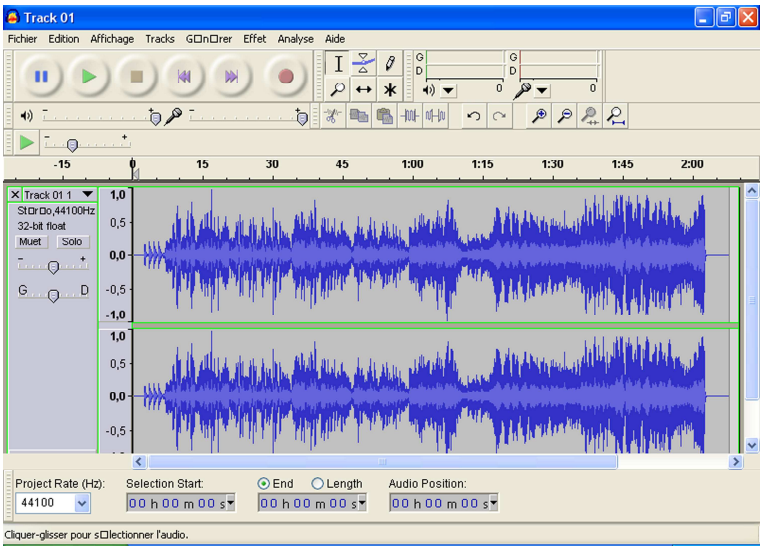
[14] Audio software (Open Source software) :

Audacity for Windows, Mac or Linux (approx. 2 to 3 Mo according to version)

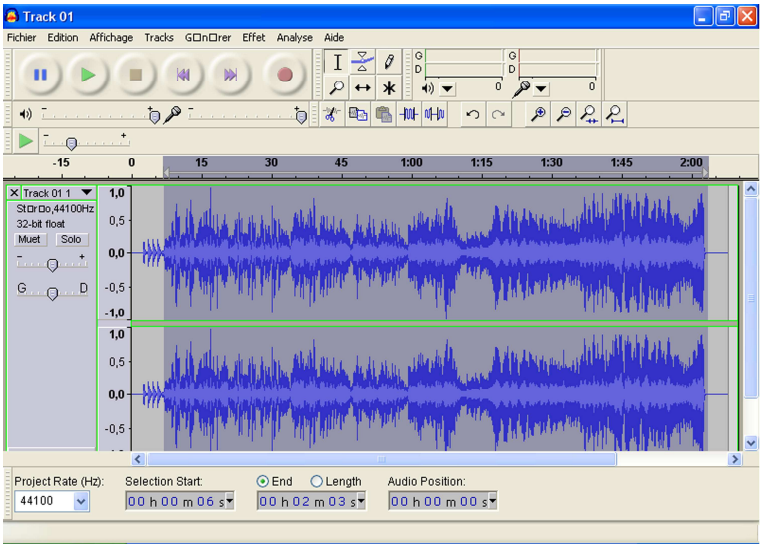
http://audacity.sourceforge.net/

Examples:

Load the .WAV file you just got from the competitor's CD into the software. Here is a typical 2-minute Artistic Aerobatics music that includes starting signals at 1 second intervals. Note this is a stereo piece of music.

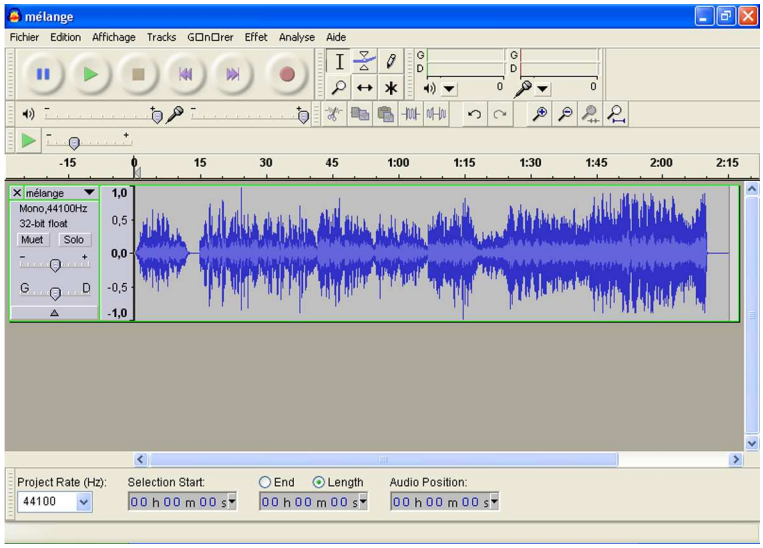



Now select the whole piece of actual music beginning after the start signals and up to the end. The actual duration is shown in the bottom window (here 2 minutes and 03 seconds less 06 seconds, so 1 minute and 57 seconds).




*cont/...*

Here is another kind of music. One sees some length of sound (it could be voice, music or even a mixture of both) before the actual piece of flight music. This is permitted, provided there is a definite silence separating the opening piece of sound from the actual music so as to avoid any misunderstanding.




In this case, the Organiser should check that the length of time preceding the actual music does not last more than 30 seconds.

A competitor may do similarly at the end of the flight music. This is permitted under the same conditions, a clear separation from the actual music and coming to an end at the most 30 seconds past the actual flight music.

It may happen that competitors do not cut their music to the proper duration. Once the music is started at the beginning of a competition flight, there should be no more action by the competitor, the Contest Manager nor the music Steward and the judges score the flight until the music ends. In this case, there are two options: the competitor may elect to let the music run to its end, in what case the flight's score should be reduced in proportion of the excess duration (i.e. If the music lasts 180 seconds in place of the required 120 seconds, the final score should be reduced by (180 – 120)/120 or 50 % ) or he may ask the Organiser to cut the music to the required duration. This may be done (at a fee that should be specified in the contest invitation documents), but limited to a single cut of the excess music duration and a fresh burned CD.

### 4.3 Time schedule

Before every round, and as soon as the flight order is established, the time schedule shall be clearly visible and known, so that competitors have the full responsibility to be ready to fly at the specified time. The transmitter Impound Marshall shall make a competitor's transmitter available early enough before this competitor's flight time, provided there is no more possible frequency conflict up to the end of his flight.

The organiser should make every effort to keep a strict time schedule. Usually programming one start every 5 minute proves satisfactory and easy to manage. It is recommended to introduce in the time schedule a few minutes pause at approximately 30 minutes intervals. These pauses are meant to allow some rest for the judges and should be filled with demo flights or other entertaining activity. If any incident delays a flight, a pause may be shortened to keep up with the planned time schedule, but no flight shall be allowed ahead of the schedule, even if a previous competitor fails to start or under any other circumstance. The excess free time, however, shall be used to keep spectators entertained, either by a short demo or by additional comments from the speaker.

In practice, setting up a schedule with 5 flights every ½ hour (5-minute slots), followed with a 5-minute pause proves easily manageable.

*cont/…*

### 4.4 Flight slots timing

In principle, no timing should be necessary during the actual flights if the duration of the competitors' music pieces have been checked beforehand. A stopwatch is, however, necessary to start the music at the specified 30-second limit, should the competitor fail to signal it before, as well as to check that the landing does not happen later than the specified 30-second after the end of the music.

As soon as the music stops, there is no need for the judges to follow the remaining of the flight up to landing. It is, however, the Field Marshall's responsibility to make sure the competitor does not infringe on the flight space boundary. In such a case, he shall inform the judges to zero out the corresponding scoring criterion.

## 5 Music summary

At the same time the Organiser collects and checks the competitor's music CD he should as well collect the related Music Summary Form that shall be appended to the competition information documents and sent back with the entry form (one Music Summary Form per Flight Music). While this form may be used to list all the music performed during the event for the Music Rights Collecting Agency, it should also be used to inform the spectators before this competitor's flights.

## 6 Starting order

The starting order is one of the prominent features of Artistic Aerobatics. It is designed to produce a constantly increasing interest level for spectators and Media. At the same time, it makes the judges' task easier and more fair as any two successive competitors are of roughly similar level and may be easily compared using the same criteria.

When no international or national ranking is available, the Organiser should try and establish a starting order according to his experience and the perceived relative performance level of all competitors. This is valid for the initial round only as the starting order for any subsequent round is based on the previous round's classification.

Artistic Aerobatics rules allow Organisers to set up a system of direct and indirect qualification to access any round, except the Final one. It is highly recommended to limit this option to the second round qualification as this enables any competitor, even placed last, to fly at least twice during the competition.

## 7 Results display

A quick display of scores and results is essential to maintain interest at a high level at any time through the competition. Spectators should understand what happens and have a proper view of the standings. It is recommended that judges display the score right after a competitor's flight. In addition, whenever possible, the standings should be displayed/announced at short notice (preferably after every flight) for everyone to see/hear.

**5ANNEX F6B - 1**

**AEROMUSICALS SCORE SHEET**

# Aero Musicals

| | | |
|---|---|---|
| Qualification 1 | Qualification 2 | Qualification 3 |
| Qualification 4 | Qualification 5 | Finals |

## Technique

Execution precision

0.5 1 1.5 2 2.5 3 3.5 4

Use of the full range of the flight envelope

0.5 1 1.5 2 2.5 3

Versatility

0.5 1 1.5 2 2.5 3

## Artistic Quality

Synchronisation with music

0.5 1 1.5 2 2.5 3 3.5 4 4.5 5

Pleasing and continuous flow of figures

0.5 1 1.5 2 2.5 3

Contrasting periods of dynamic and graceful manoeuvres

0.5 1 1.5 2 2.5 3 3.5 4

## Overall Appearance

Use of the full performance zone flight space

0.5 1 1.5 2 2.5 3 3.5 4

Presenting figures in their best orientation

0.5 1 1.5 2 2.5 3 3.5 4

Total Score

| | |
|---|---|
| Competitor:<br><br>(signature): | Judge:<br><br>(signature): |
| Date: | Organiser: |

**ANNEX F6A - 2**

**AERO MUSICALS MUSIC INFORMATION**

# Aero Musicals

## Music Information Form

Describe below the various elements you have assembled to produce your freestyle music. This will be used to inform spectators as well as credit the proper rights owners for public performance fees purposes.

**Complete one form for each different Freestyle Music**

**How to use:** For each component of your music, indicate the name of the composer & performer. Wherever possible state the title, label and serial number of the record that has been used.

Tick ✓ the appropriate box

| **Competitor:** | | | | | |
|---|---|---|---|---|---|
| **Qualification 1** | | **Qualification 2** | | **Qualification 3** | |
| **Qualification 4** | | **Qualification 5** | | **Finals** | |

Music Element 1: _____

_____

_____

Music Element 2: _____

_____

_____

Music Element 3: _____

_____

_____

Music Element 4: _____

_____

_____

Music Element 5: _____

_____

_____

Music Element 6: _____

_____

_____

Music Element 7: _____

_____

_____

Music Element 8: _____

_____

_____

| **Date:** | **Organiser:** |
|---|---|

# ANNEX F6B - 3

# AEROMUSICALS JUDGES' GUIDE

## 1. PURPOSE

The purpose of the FAI AeroMusicals Judges' Guide is to provide judges with some insight to assess the artistic and technical qualities of AM flights. Unlike the strive for perfection and precision of the FAI F3A and F3C classes of precision aerobatics, AeroMusicals is designed to be a spectators and media-friendly event, and flights should be performed with entertainment in mind. Judges must look for flights to have an overall entertaining quality without compromising technical ability.

## 2. CRITERIA

The following judging criteria are used to assess the quality of AeroMusicals flights. The scoring system already has a built-in weighting system. This means that judges should consider independently each of the criteria on a scale from zero to maximum score and not place a higher emphasis on, say, artistic quality and lesser emphasis on technique. Scoring is done in half-point increments.

### 2.1 Technique

- Precision and accuracy of the execution
- Use of the full range of the aircraft's flight envelope/characteristics
- Versatility

#### 2.1.1 Precision and accuracy

Technique has to do with the technical skills exhibited by the competitor. The manoeuvres and figures should be executed with precision and accuracy, with the competitor demonstrating that he has the aircraft under full control in all attitudes. It should be clear to the judges that the manoeuvres flown were, in fact, intended and fully under the pilot's control. Higher marks will be given under this heading when individual manoeuvre elements are started and finished on obviously precise headings and well-defined attitudes.

#### 2.1.2 Use of the full range of the flight envelope

Judges must satisfy themselves that the competitor makes full use of many different areas of the flight envelope of his aircraft. This means flying at the full range of speeds and accelerations possible. Both positive and negative parts of the envelope should be used in reference to both speed and acceleration. The flight should include the demonstration of controlled flight beyond the stall boundary by use of hovering, autorotation or other high-alpha manoeuvres.

The pilot is expected to show movement of the aircraft about all axes. Higher marks will be given to competitors able to make use of all these effects through a wide range of aircraft attitudes and flight paths. Repeated use of the same or similar attitudes or manoeuvres should result in a lower score for this category.

#### 2.1.3 Versatility

A combination of a wide variety of figures flown on different axes and flight paths. Many different figures should be completed in the time available. These should include manoeuvre elements of many different kinds and should use many different flight paths and axes. Lower marks should be given to a pilot who used only one or two principal axes of flight. However, the use of additional axes must be clear and precise, not giving the appearance of being used by chance. Marks should also be deducted if any particular manoeuvre element is over-used or continues for an excessive period of time.

## 2.2 Artistic quality

- Synchronisation with music
- Continuous flow of manoeuvres and figures
- Contrast

The artistic quality of a flight has to do with how well the competitor choreographed his flight.

The effective use of visual mood-enhancing devices such as ribbons, streamers, lights etc. should result in higher scores, provided their use is synchronised with the flight performance and music. These devices must not be incidental and must enhance the flight performance. Any malfunction of these devices should result in a lower score, unless deliberate and intentional jettisoning is used to create a more dramatic and spectacular effect.

### 2.2.1 Synchronisation with music

The difficulty of AeroMusicals is for competitors to fly perfectly in harmony and rhythm with a musical arrangement they have selected themselves. The music must enhance and augment the flight, so that the right mood is created. Marks should be deducted in this category for a flight that shows no relation between the rhythm of the evolutions and the music, therefore transforming the musical accompaniment to simple background music.

### 2.2.2 Continuous flow of manoeuvres

The selection of only one piece of music with no discernable contrast, mood changes, or tempo, is an indication of lack of flair by the competitor and should be met with a lower score. Ideally a good compilation of differing pieces of music of contrasting rhythms and tempos that is matched by flight performances should score higher.

Judges should look for a continuous flow of manoeuvres and sequences that are well blended. Periods of inactivity or level flights between sequences of manoeuvres should result in lower scores than flights that have continuous, well-blended sequences.

### 2.2.3 Contrast

Typically, a high-scoring flight must have enough variation in pace and contrast in the music: dramatic, loud and lively passages in the music should be matched with energetic actions in the flight, with rapid rotations or changes in attitude and high-G manoeuvres. Conversely, less dramatic, softer and soothing passages in the music should be matched with manoeuvres and figures that contain graceful rolling, hovering, spinning and tumbling actions. Music that builds in tempo and volume, and reaches a crescendo, should be matched with vertical manoeuvres that end either high, or low, etc.

## 2.3 Overall appearance/impression

- Full use of performance zone
- Positioning

### 2.3.1 Full use of performance zone

The sequence should be centred on the judges position. Highest marks will be given when the sequence as a whole is balanced evenly in width, depth and altitude. Marks should be deducted if a programme is noticeably biased with all parts of the flight space volume not used to the same extend. The greater the degree of asymmetry, the lower should be the score.

### 2.3.2 Positioning of manoeuvres

Competitors should present individual figures in their best orientation and their optimum position. Judges should look for the optimum placement of manoeuvres and sequences where the most critical portions of manoeuvres can be evaluated. Figures can give different impressions when seen from different viewpoints.

Manoeuvres and figures should be performed so that they are easy to see and judge, the competitor making full and balanced use of the manoeuvring volume or performance zone. Dangerous and reckless flying, or flying an aircraft towards the spectators or the judges in an apparent uncontrollable manner, should be scored low in this category, even if the flight has

technical merits and artistic quality. Judges should recognise the difference between showmanship and reckless flying.

## 3. JUDGING METHODS

It is advisable for judges to pencil in their marks/scores as a flight progresses, rather than having to wait until the end of a flight before an assessment is made in any of the criteria. By using this method, judges may be able to move up or down the scoring range as the flight unfolds, to arrive at a more accurate judgement. Continuous attention must be given to the three judging criteria during a flight.

The score sheet is designed in such a way that scores for any judging criteria are spread along the same length between zero and the maximum score for that specific criteria. As a result, the relative distance of the mark from the leftmost part of the score sheet is a direct indication of its relative value for that criteria, irrespective of the actual maximum possible score. This method enables quick scoring without resorting to K-factors and makes possible a public display of the flight scores within a very short time after the flight has been completed. In case a zero mark should be awarded, it may be directly written in the right-hand box.

### 3.1 Marks

Judges should always remember that the final classification is dependent upon the relative scores of the competitors and not the absolute value of the marks. The actual score is not important, the ranking is. One should always have the possibility to sanction a difference in performance with a wide enough score difference, specially taking into account that the specified starting order makes for successive competitors having roughly similar values and the top level competitors flying at the end of the round. As a result, judges should always keep in mind that later flying competitors may score higher and that is more important separating the top placers than the last ranking pilots. To this purpose it is best to keep scores low enough for the first starting competitors to always keep some margin of improvement, should subsequent flights prove decidedly superior. Therefore, when in doubt, always score the lower mark.

## 4. ACCURACY, CONSISTENCY AND NON-BIAS

The scoring criteria are quite subjective and are not designed to follow strict qualitative judging standards. This should however not preclude judges from maintaining a consistent judging standard, even with the possibility of widely varying flight performances. Judges will see a wide selection of styles, indicating personal preferences, personality traits and individuality. For this reason, judges should not be biased, positively or negatively, towards a pilot, or particular type of aircraft, power plant, or music type (classical, jazz, pop, rock, choral, instrumental, etc.).

## 5. CLOSING

It should be remembered by judges that AeroMusicals is designed to be attractive to the modern electronic media, and to the uninformed spectator to aeromodelling, to entertain him, and to ensure that he remains occupied, either at the flying site or in front of his visual medium. Flights should have enough entertainment value that will cause spectators to judge the flights for themselves, without having extensive background in qualitative judging methods. It should leave an impression of “competitor two had a more pleasing, impressionable and entertaining routine than competitor four”. However, the entertainment value of flights and the attractiveness to spectators and the media should not overshadow or detract from the very important aspect of the competitors achievements. After all, without the competitors, there won't be an event.

Using the judges guide will hopefully ensure that judges rank the competitors in the fairest possible order, thus generating widespread public appeal and acceptance of aeromodelling as a sport worthy of media coverage.

# ANNEX F6B – 4

# AEROMUSICALS ORGANISER'S GUIDE

***This Organiser's Guide is meant to help AeroMusicals organisers set up a smooth running competition with minimal work, limited need for helpers and stewards and proper exposition to spectators.***

## 1 Before the competition

AeroMusicals is a competition where pilots fly their aircraft to music. This means the meet organiser is responsible for payment of any public performance fees that may be due. "Public performance" is to be understood as any music broadcast outside of the family circle.

In practice, this varies from country to country according to local regulations but is usually limited to paying a small blanket fee (possibly even nothing) according to many variables, i.e. whether the entrance is free or subject to payment, the number of spectators, etc.

One should get in touch with the Rights Collecting Agency (see "Music Public Performance Guide") as early as possible before the actual event (a minimum of 2 to 4 weeks is usually right) to obtain the necessary documents. Typically the form should be sent back within a week after the event.

It should be underlined that such a procedure is not specific to AeroMusicals but is a requirement for any event at which music is broadcast, such as model flight shows – be they open to public attendance or not – F3P, F3M competitions, etc.

## 2. Competitors check-in

When competitors arrive at the competition site, the Organiser shall:

(a) Check that the competitor holds a valid Sporting License (FAI Sporting Code, Section 4, Volume ABR § B.3.2.) and keep it in custody until the end of the competition ;

(b) Collect (if not done previously) the competitor's Entry form after checking that it is fully and accurately filled in (FAI Sporting Code, General Section § 3.12.1.) ;

(c) Collect the competitor's freestyle music CDs after checking that they are properly marked with the competitor's name and fitted with blank sticker(s) ;

(d) Check the competitor's CDs for proper music duration (see (3) – Time management).

## 3 Flight space setup

Whatever the actual space available, its actual size should be detailed in the preliminary competition documents so that competitors can adapt their flight routines before coming to the competition site. This includes, but is not limited to, ground space size, minimum and maximum ceiling heights at flight space location as well as size and location of any obstacle that may interfere with the flights such as hanging lights, basketball poles, etc. Details of the lighting system (ceiling lights, windows, etc.) are also best included in the document.

The Organiser should set up a clearly defined flight space as well as protection devices (such a nets, etc.) if required by the local safety administration authority. The judges panel should be located along the flight space median line to enable the best possible view of the whole flight space and proper communication with the Flight Marshall and the Music Steward.

When setting up the flight space, the Organiser should try and make the best possible use of local conditions. For instance, it is best to avoid having pilots, judges and spectators directly facing sunlight when large windows fill up the opposing wall space. Whenever possible, according to the hall set up and contrarily to usual model event practice, try and place judges and pilots opposite to spectators. This way, spectators can better see what the pilot does and relate it with the aircraft manoeuvres, a sure receipt for increased interest. In addition, this enables video operators to have a proper view of the pilot without interfering with the latter's actions nor spectators' view.

The Organiser should make every effort to provide both competitors and spectators with the best possible sound system. Many sports halls are fitted with an integrated sound system, it is then only necessary to make sure the operator (the Music Steward) has a full understanding of the available apparatus. Test well before the start of the competition to ensure error-free operation.

In halls devoid of integrated sound system as well as at outdoor locations (F6B-B/C) the Organiser should make sure the sound system provides the proper uniformity. It is essential that the competitor hears the music correctly and without delay, but also judges and spectators, so as to enable them to precisely relate music and manoeuvres. In practice this means that in halls without integrated sound system, one should try and place the audio speakers around the spectators area and centred on the pilot and judges. Outdoors, the audio speakers should be evenly placed along the spectators' line. Although the music system shall primarily be directed at spectators and judges (so, in effect, away from the pilot and flight line), it is essential that the competitor hears very clearly the music that drives his flight. This is best done with a small monitor located right behind him and directly linked to the master sound system. Even if the competitor did not do it when preparing his recorded music, it is highly recommended to set the audio system to mono.

Whatever the Music Steward's location, the Organiser should make sure of proper direct communication (preferably visual) between the competitor at its flight location, the Field Marshall and the Music Steward.

### 3.1 Ancillary space

Whenever possible, only the actual flight space and action should be in direct spectators view, keeping the competitors preparation space, transmitter impound, music management apparatus etc. out of view. While a display of models may be of interest to spectators, these models should preferably not be the competition models to be used during the round, so as to prevent distracting activity in the course of this round.

If deemed necessary, the transmitter impound shall be fitted with a device (scanner, spectrum analyser) that enables detection of radio interference. The competitor's preparation space (preferably, whenever possible, a separate room) shall have mains plugs or charging facilities for competitors' use.

## 4 Time management

### 4.1 Timing procedures

Normally timing should not be necessary, provided the duration of each competitor's music is known. This is best checked at registration time before the actual competition starts. The easiest and quickest way is to do it with the help of a computer and a couple of small pieces of free software.

So as to avoid possible errors when playing competitors' music, request competitors to mark their name and put blank stickers on their CDs (NOT on the CD cases). The Organiser will use the stickers to write the competitor's starting order for each round, then make a pile of the CDs to be used for any round in the same order they are to be played. This procedure will greatly minimise any risk of error in the course of a round.

### 4.2 Checking the competitors' music duration

The principle is to “rip” the competitor's piece of music on the CD into a raw digital file (.WAV) and look at it with a music software to determine its duration. With some practice, no more than one minute is required to achieve this.

Although many commercial software are able to do it very efficiently, very simple and free software (“freeware”) are quite sufficient and even faster. As an example, from the many CD ripper software available, ***Express Rip***[15] is a very small piece of software able to produce a .wav file from an AeroMusicals music CD in a couple of seconds.

[15] CD ripper (freeware) :

Express Rip by NCH Swift Sound (only 322 kb)

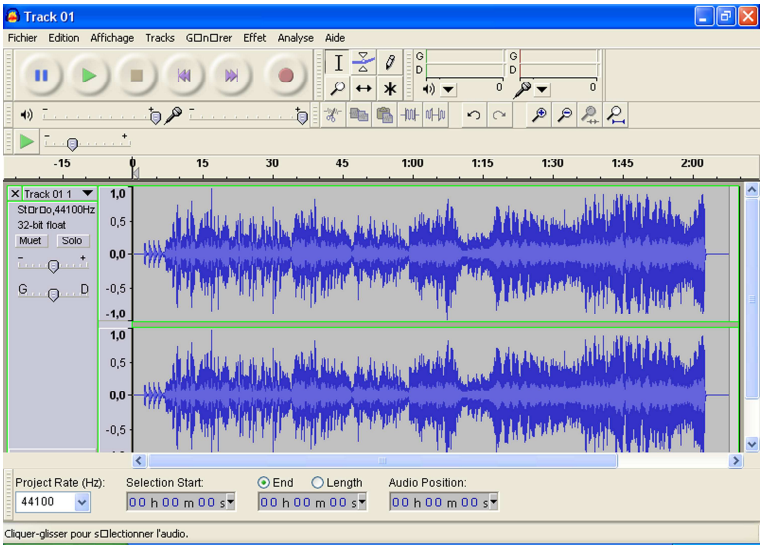
http://www.nch.com.au/rip/index_b.html?gclid=CJXdlNmR1IsCFSYSQgodrC_5aw

(direct download: http://www.nch.com.au/rip/ripsetup.exe )

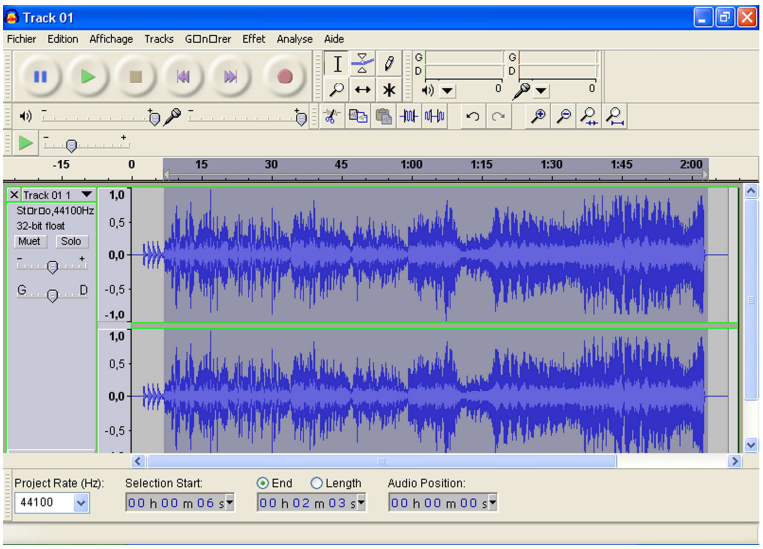
To visualise audio files, we recommend ***Audacity***[16], a free, open source software very easy to use and available in several languages.

***Examples:***

Load the .WAV file you just got from the competitor's CD into the software. Here is a typical 2-minute AeroMusicals music that includes starting signals at 1 second intervals. Note this is a stereo piece of music.




Now select the whole piece of actual music beginning after the start signals and up to the end. The actual duration is shown in the bottom window (here start time 06 seconds, end time 2 minutes and 03 seconds for a 1 minute and 57 seconds actual duration).

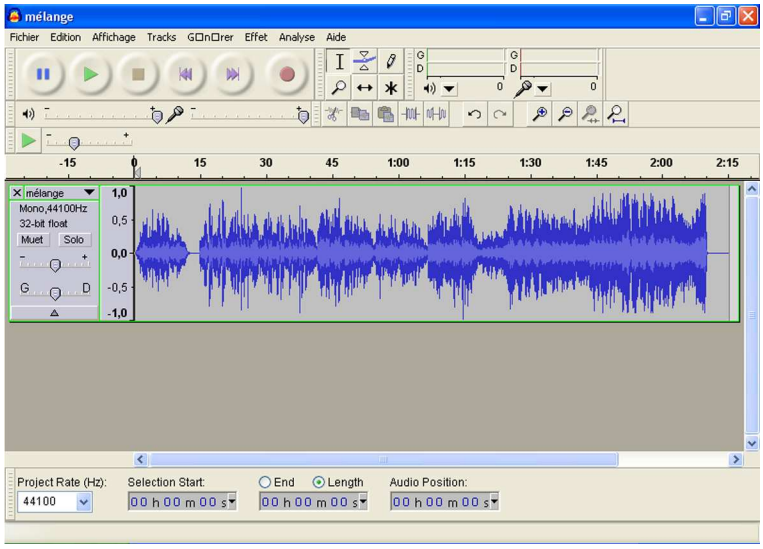



Here is another kind of music. One sees some length of sound (it could be voice, music or even a mixture of both) before the actual piece of flight music. This is permitted, provided there is a definite silence separating the opening piece of sound from the actual music so as to avoid any misunderstanding.

[16] Audio software (Open Source software) :

Audacity for Windows, Mac or Linux (approx. 2 to 3 Mo according to version)

http://audacity.sourceforge.net/




In this case, the Organiser should check that the length of time preceding the actual music does not last more than 15 seconds.

A competitor may do similarly at the end of the flight music. This is permitted under the same conditions, a clear separation from the actual music and coming to an end at the most 15 seconds past the actual flight music.

It may happen that competitors do not cut their music to the proper duration. Once the music is started at the beginning of a competition flight, there should be no more action by the competitor, the Contest Manager nor the Music Steward and the judges score the flight until the music ends. In this case, there are two options: the competitor may elect to let the music run up to its end, in what case the flight's score should be reduced in proportion of the excess duration (i.e. If the music lasts 180 seconds in place of the required 120 seconds, the final score should be reduced by (180 – 120)/120 or 50 % ) or he may ask the Organiser to cut the music to the required duration. This may be done (at a fee that should be specified in the contest invitation documents), but limited to a single cut of the excess music duration and a fresh burned CD.

## 4.3 Time schedule

Before every round, and as soon as the flight order is established, the time schedule shall be clearly visible and known, so that competitors have the full responsibility to be ready to fly at the specified time. The Transmitter Impound Marshall shall make a competitor's transmitter available early enough before this competitor's flight time, provided there is no more frequency conflict possible up to the end of his flight.

The Organiser should make every effort to keep a strict time schedule. Usually programming one start every 4 minute proves satisfactory and easy to manage. It is recommended to introduce in the time schedule a few minutes pause at approximately 30 minutes intervals. These pauses are meant to allow some rest for the judges and should be filled with demo flights or other entertaining activity. If any incident delays a flight, a pause may be shortened to keep up with the planned time schedule, but no flight shall be allowed ahead of the schedule, even if a previous competitor fails to start or under any other circumstance. The excess free time, however, shall be used to keep spectators entertained, either by a short demo or by additional comments from the speaker.

In practice, setting up a schedule with 6 flights every ½ hour (4-minute slots), followed with a 6-minute pause proves easily manageable.

## 4.4 Flight slots timing

In principle, no timing should be necessary during the actual flights if the duration of the competitors' music pieces have been checked beforehand. A stopwatch is, however, necessary to start the music at the specified 15-second limit, should the competitor fail to signal it before, as well as to check that the landing does not happen later than the specified 15-second after the end of the music.

As soon as the music stops, there is no need for the judges to follow the remaining of the flight up to landing. It is, however, the Field Marshall's responsibility to make sure the competitor does not

infringe on the flight space boundary. In such a case, he shall inform the judges to zero out the corresponding scoring criteria.

## 5 Music summary

At the same time the Organiser collects and checks the competitor's music CD he should as well collect the related Music Summary Form that shall be appended to the competition information documents and sent back to the Organiser with the entry form (one Music Summary Form per Flight Music). While this form may be used to list all the music performed during the event for the Music Rights Collecting Agency, it should also be used to inform the spectators before this competitor's flights.

## 6 Starting order

The starting order is one of the prominent features of AeroMusicals. It is designed to produce a constantly increasing interest level for spectators and Media. At the same time, it makes the judges' task easier and more fair as any two successive competitors are of roughly similar level and may be easily compared using the same criteria.

When there is no international or national ranking available, the Organiser should try and establish a starting order according to his experience and the perceived relative performance level of all competitors. This is valid for the initial round only as the starting order for any subsequent round is based on the previous round's classification.

AeroMusicals rules allow Organisers to set up a system of direct and indirect qualification to access any round, except the Final one. It is highly recommended to limit this option to the second round qualification as this enables any competitor, even placed last, to fly at least twice during the competition.

It is up to the Organiser to decide how many competitors will be qualified into any round after the first one, provided the number is reduced from the previous one. A typical 6-round contest would thus be run with 100 %, 80 %, 50 %, 30 % of all competitors, then a last qualification round with 5 competitors and Finals with 2 competitors.

## 7 Results display

A quick display of scores and results is essential to maintain interest at a high level at any time through the competition. Spectators should understand what happens and have a proper view of the standings. It is recommended that judges display the score right after a competitor's flight. In addition, whenever possible, the standings should be displayed/announced at short notice (preferably after every flight) for everyone to see/hear.