

FAI Aerobatics Commission (CIVA) Annual Plenary Meeting 2025 Paris Le Bourget Air and Space Museum, France

The ACRO Contest Scoring Programme

The ACRO scoring software is largely unchanged since 2024. A number of features have however been further developed an/or added in response to requests from organisers and scorers at national competitions. This comprehensive software system is free to use, and has been the package of choice around the world since 2005 to manage data input and results creation at well over a thousand national and international aerobatic competitions.

Minor revisions and additions since 2024 have included the following -

- 1. Judges marks can now be entered in situations where the Chief Judge has withheld final approval pending a subsequent video review. The printed and online results sheets are annotated to indicate that a later review and possible update will follow.
- 2. Identification of "Junior" competitors and reports specifically for them have been added.
- 3. Results can now be calculated from highest X from Y pilot scores in selected sequences, discarding the least score(s) in each case so the final results comprise only the selected pilot scores. This is used in some national events where their regulations require it.
- 4. Website index pages have added features to revise the size and style of the header texts, and optional click-buttons added to access the CIVA News, Instagram and Facebook pages.
- 5. Further Copy → Paste features have been added to enable scorers to make more use of previous competition files to access and copy historic listings of officials, pilots etc.

Future CIVA scoring programme strategy

ACRO is primarily used with paper judging sheets, which with smart organisation can quickly be photographed at the Chief Judge's desk and transmitted to the scoring office for rapid centralised data entry and results publications instead of irregular physical transportation. It also however includes embedded code to service remote tablet-based scoring systems for judges, used in the past with a Czech tablet system that was ultimately abandoned due to issues verifying judges original marks entries when the inevitable queries arose and physical confirmation became necessary. There are now however other fully electronic scoring systems in early use around the world, not only at aerobatic contests in Spain and the UK (with the Spanish system) but other FAI commissions also make effective use of software and hardware from sources outside our sphere.

It seems almost inevitable that old-fashioned, dependable and historically checkable paper-based judging panel operations will at some stage give way to activities using the modern electronic data handling devices that are such a central part of our lives now. From the 20-year development experience ACRO has generated and all the comments and input received from countless sources during its dominant and reliable use in CIVA and many hundreds other aerobatic contests around the world, the following practical review of the fundamental structure necessary for reliable

scoring at major FAI aerobatic events will, I hope, encourage others to move this critical part of our operations forward and establish a future-proof and media-friendly position.

ACRO provides all of the following, in my view vital features at major events -

- Categories / levels / classes in TLA (three-letter-acronym) format and their true titles
- 2. Sequence structures Known, Unknown, Free Known, Free Unknown, 4m Freestyle etc.
- 3. K-factors per pilot per sequence plus figure designations A, B ... J etc.
- 4. Fully flexible and future-proof penalty options managed per sequence
- 5. Pilots, Juniors, men/women, aircraft, teams, multiple a/c usage, etc.
- 6. Disqualification / reinstatement features to resolve all possible circumstances
- 7. National flags management for all output streams and reports
- 8. Warm-Up pilot registration and assignation
- 9. The CJ, Judges and Assistants, Jury members with their NAT, key organisers and staff
- 10. Judging panel construction per programme to match all feasible Raw and FPS options
- 11. Summary Sheet creation and output for the Chief Judge
- 12. Personal photos competitors, CIVA officials, other significant staff
- 13. Sequence diagram capture / output ability for online judging sheets
- 14. Flying Orders, single sequence and groups / collections
- 15. Output of print and online reports, critical lists, general info etc.
- 16. Logo management for all output streams, online index options
- 17. Data transmission to and receipt from a remote tablet system
- 18. Marks entry, validity testing and audio read-back, check-sheet output
- 19. Raw and FPS calculation options per programme / sequence
- 20. A flexible Results Reports designer to manage single/multiple programme output, team results, medals settings, men / women, juniors, H/C, best X from Y programme scores etc.
- 21. Detailed analysis of judges performances, penalties awarded etc.
- 22. Website index sheet management, secure / fast ftp operations
- 23. A comprehensive Help system for every realistic option
- 24. Rapid online / direct assistance to resolve unusual issues during operation
- 25. Data file storage and free availability sourcing for download, review, analysis etc.

Many elements in the above list have been developed through the exchange of insights, guidance and fresh ideas with scorers, competitors and software technicians over the years, aiming to make available to CIVA and all less substantial contest environments the simplest and broadest possible range of useful features to cover all potential needs. The establishment, proving and integration of a new fully electronic system to meet these objectives could be seen as a significant attraction for CIVA. It must always be borne in mind however that while problems at a lesser competition would be unfortunate, the possibility of inaccurate or no results at an international championship and/or the absence of a readily available paper checking and restoration trail would have disastrous consequences, not only at the event but to competitors and the commission in the longer term.

I suggest that CIVA should establish a formal Working Group to thoroughly review all relevant aspects of a potential paperless / electronic scoring system, with a mandate to regularly report back to plenary on the advisability of alternate systems able to reliably meet CIVA criteria.

Nick Buckenham October 2025