



## AIR-BT & AIR-BT-Pitot Firmware release notes (April 11<sup>th</sup> 2019)

### 506a-019 (April 11<sup>th</sup> 2019)

- **Distance Calculator (in compliance with FAI-CIVL 2019 Cat. 1 regulations)**
  - Earth model: the Main Setup n.42 DCAL parameter is now active and the "Distance Calculation Mode" is operative:  
FAI = FAI Sphere , WGS = WGS84 Ellipsoid (default WGS84)  
Important: set this parameter according to the local rules of each competition you fly.
  - Distance tolerance: the Main Setup n. 43 DTOL parameter is now active and the "Distance Tolerance" is operative:  
ranges from 0.0 to 0.5% (default 0.0 %)  
Important: set this parameter according to the local rules of each competition you fly.
- **Waypoint Altitude**

The naming protocol where the altitude of a given waypoint is included in its name (last 3 characters) is no longer active and the altitude is added in its own separate field. Please make sure the waypoints you are provided by an event organizer include this information.  
Previous firmware version had both options: information on separate field and the instrument would also read it if contained in the name.
- **MicroSD memory card**

Improved microSD card functionality: AIR-to-AIR data transfer enhanced with the use of the microSD card (for example: transferring waypoints, routes, pages and sound profiles).



### 505a-019 (June 27<sup>th</sup> 2018)

- **Note:** *still waiting for the official FAI-CIVL communications regarding the parameters to be used for distance calculations, we have temporarily disabled the possibility of modifying such parameters. At this point, the parameter for Distance Calculation (Main Setup \ DCAL) is set to "FAI Sphere" and the Distance Tolerance parameter (Main Setup \ DTOL) is set to 0%.*
- Bug fix: the issue related with the drawing of the map, which in very rare occasions would cause the instrument to malfunction, has been fixed.

### 504a-019 (April 12<sup>th</sup> 2018)

- **Note:** *still waiting for the official FAI-CIVL communications regarding the parameters to be used for distance calculations, we have temporarily disabled the possibility of modifying such parameters. At this point, the parameter for Distance Calculation (Main Setup \ DCAL) is set to "FAI Sphere" and the Distance Tolerance parameter (Main Setup \ DTOL) is set to 0%.*
- **INTEGRATED IGC FILE (formatted according to the latest FAI-CIVL 2018 regulations)**

Automatically generates an IGC file with G-Record signature directly on the microSD card, in the \IGC folder. If the folder is not yet on the microSD, it will be created automatically.  
How to use: Go to Menu \ Logbook, select the desired flight, then LONG PRESS the OK button.  
The help message under "Logbook" will say "long press OK to save IGC"



- **PRE-RECORDER (according to the new FAI-CIVL 2018 regulations)**  
When you take off, the recorder will include, at the beginning of the flight log, the 30 trackpoints prior to the take-off (pre-recorder).  
Before taking off, you need to make sure the recorder has been able to get at least 30 trackpoints (=30 seconds). While the instrument records these 30 points, you will see a black rectangle in place of the recorder's logo.

- **RECORDER (according to the new FAI-CIVL 2018 regulations)**  
Adds a barometric point to the recorded track even when there may be a temporary gap in GPS coverage.

- **MICRO-SD MANAGER**  
New functions added to the microSD, very useful for transferring information between AIRs, like for example waypoints or a task.

"microSD Manager" added to the Menu.

microSD Manager options :

- Route Import
- Route Export
- Wpt Comp Import
- Wpt Comp Export
- Wpt User Import
- Wpt User Export
- Audio Import
- Audio Export
- Page Import
- Page Export
- File Explorer

The directory structure, created automatically is as follows :

- \ROUTES (\*.TSK) ROUTE-01.TSK ... ROUTE-12.TSK
- \WAYPOINT (\*.WPB) WPT-COMP.WPB, WPT-USER.WPB
- \AUDIO (\*.DGA) AUDIO-01.DGA, AUDIO-02.DGA
- \PAGES (\*.PAG) PAGE--01.PAG ... PAGE--12.PAG

File Explorer:

- Use arrows to highlight a directory, then the OK button to access it
- LONG PRESS the arrow UP button to return to the main directory
- Exit using the M button

- **FAI-TRIANGLE ASSISTANT:**  
New parameter added to the Main Setup menu: "**FAIT**" (FAI-Triangle Assistant / default setting OFF)  
**Note:** If you have a map on the current page (see the new version of the standard Pg.12) and the FAIT is active, and have the GPS fix, the function of LONG PRESSING the M button changes and now opens an FAI-Triangle popup with choice window and timeout of approx. 4sec:

"**Press UP to swap**": It inverts the possible FAI-Triangle area over the task legs

"**Press DOWN to set V1-2**": memorizes the current position (fix) on vertices 1 and 2 according to the following logic:

- if vertex 1 has not yet been memorized, it will be set with the current fix (note: vertex 1 will be set automatically with the fix from take-off)
- if vertex 1 is valid and vertex 2 has not yet been memorized, then I will set vertex 2 with the current fix



- if both vertices 1 and 2 have been memorized, then I will overwrite the vertex closest to my current position with the current fix.

"**Press OK to set V3**": memorizes the current fix on vertex 3, if and only if both vertices 1 and 2 are valid.

"**Menu to exit**": by pressing the M button, you will go back to the previous screen without any modifications.

On take-off, the FAI triangle will be re-set and vertex 1 will be automatically memorized using the position of take-off

The possible FAI-Triangle area is drawn if and only if the distance of the base (vertex 1, vertex 2) is at least 2km (1.2mi)

- **New Instrument FAI SIZE:**

A digital indicator in "distance" format has been added: "FAI SIZE" "FS"

The FAI SIZE instrument has been included in the new standard Pg.12 instead of the Chrono instrument Display logic:

Up until you take off, you will see only dashes (both vertices 1 and 2 are not yet valid)

- on take-off, vertex 1 will be automatically set with the fix

- after take-off, it will display the distance from take-off (vertex 1) until you manually set vertex 2

- after setting vertex 2 using "**Press DOWN to set V1-2**", it will display the distance of the base (from vertex 1 to vertex 2) + the distance between vertex 2 and the fix

- after setting vertex 3 using "**Press OK to set V3**", it will display the distance of the base (from vertex 1 to vertex 2) + the distance between vertex 2 and vertex 3 + the distance between vertex 3 and the fix

**Note:** When the FAI assistant is disabled, then the FAI SIZE instrument will always indicate the distance to the take-off

- The editing function of the "Altitude" field on the edit route page has been reactivated
- bug fix: the issue due to the small mathematical round off of the last decimal digit of the waypoint coordinate editor has been fixed
- Known issue: in certain very unlikely combinations, related to the map drawing, it could be possible that the instrument will malfunction (usually noticeable on the ground). As a temporary fix, we suggest setting the ELVM map parameter to 0 in order to exclude the topographic map drawing.

## 502m-019 (July 10<sup>th</sup> 2017)

- New "**Alti QNE**" on page 12 (Map – background left) replacing the A2 altimeter.
- New "**TKF**" instrument: indicates the distance to launch.
- Parameter Main Setup n.22 (**CTRM** "CTR Mode") options modified for better understanding: OFF / ON (instead of the previous 0 /1).
- New **A1AL** "A1 Height Alarm" (n.40) parameter added to the main setup: range between 0 and 9000mt (default 0). As the A1AL threshold is passed an alarm will sound; control is reactivated as you get to 10m (approx. 33ft) below the set threshold and then fly above it again. When using the default setting of 0, the alarm is off.
- New **STAL** "Stall Alarm" (n.41) parameter added to the main setup: range from 0 to 150km/h (default 0). An alarm will sound when you reach a speed below the set speed; control is reactivated only when flying 5km/h (approx. 3mph) faster than the set speed. When using the default setting of 0, the alarm is off.



- You can only modify the following parameters directly from the MENU of the Digifly AIR and no longer using the AirTools program: OFSP (Advanced Setup / n.3), KIAS (Advanced Setup / n.4), KBAR (Advanced Setup / n.5) and GCAL (Advanced Setup / n.6). This will avoid that the upload of your settings may replace the calibration values of the internal sensors resulting in inaccurate information.
- **Route Navigation:**
  - new glide calculation system that re-calculates the complete optimized route every second, in real time.
  - the real-time navigator calculates the distance to goal managing the options of a goal line or a goal cylinder.
  - information relevant to goal is displayed if and only if I have an activated route with at least 2 waypoints, have validated the start gate waypoint and will be displayed until the task has been completed by crossing the final goal line or cylinder.  
Note: Once the task is completed, the goal info will no longer be displayed; therefore after crossing the goal line or cylinder and before landing, the instrument will display dashes instead.
- New waypoint information lines on the Navigation Manager on the INFO GPS page: symbol, type and validation direction IN / OUT.
- New parameter **DCAL** "Distance Calculation Mode" (n.42) added to the main setup: FAI= FAI Sphere (default) / WGS= WGS84.
- New parameter **DTOL** "Distance Calculation Tolerance" (n.43) added to the main setup: ranges from 0.0 to 0.5% (default 0%).  
**Note:** *still waiting for the official FAI-CIVL communications regarding the parameters to be used for distance calculations, we have temporarily disabled the possibility of modifying such parameters. At this point, the parameter for Distance Calculation (Main Setup \ DCAL) is set to "FAI Sphere" and the Distance Tolerance parameter (Main Setup \ DTOL) is set to 0%.*
- **Route Editor:**

Simplified route editing procedure:

  - suppression of the "Near" parameter which remains internally fixated to the 100m (328ft) value.
  - "Aux" parameter suppressed, not used.
  - the possibility of editing the following fields has been enabled: radius, in/out, type, start time, next gates, num. of start gates.
  - waypoint editor: on the route page, it is possible to see the start field only if the current type is SSS.
  - the "in/out" parameter indicates in which direction will the start gate waypoint be validated : IN = entry (default), OUT = exit.
  - new default time for next start gate time = 20min
  - the "Type" parameter defines the waypoint's functions :
    - TP** = normal turnpoint (default)
    - TO** = take off
    - SSS** = Start of Speed Section
    - ESS** = End of Speed Section
    - GCY** = Goal Cylinder
    - GLN** = Goal Line
  - additions to the route page:
    - "Dst std" indicator: non-optimized distance information (total and gradual)
    - "Dst opt" indicator: optimized distance information (total and gradual)



- on the route page, when activated, you get a popup with the following extra information :
  - local date and time (this way I can verify to have adjusted my UTCO correctly)
  - automatic "intellifly" screen swapper IFLY = OFF / CMP / XC
  - set tolerance used by the distance calculator DTOL = x.x %
  - world model used by the distance calculator DCAL = FAI SPHERE / WGS84

- **Barometer calibration (according to the FAI-CIVL 2017 regulations)**

Extra security feature to protect the possibility of modifying the barometer's KBAR calibration. Besides the existing restriction to modify this parameter while the track log recorder is active (present in all previous firmware versions), the restriction also applies when the instrument is in movement.

Moreover, the limitation also covers the possibility of altering it using external software.

- Known issue: in certain very unlikely combinations, related to the map drawing, it could be possible that the instrument will malfunction (usually noticeable on the ground). As a temporary fix, we suggest setting the ELVM map parameter to 0 in order to exclude the topographic map drawing.

### 501a-019 (April 11<sup>th</sup> 2017)

- Modification according new FAI/CIVL 2017 regulations:  
logger records the barometric altitude which is regulated according to the standard pressure (**QNE**).
- CTR memory capacity increased to 1000
- New digital instrument added: Standard barometric altitude **QNE** (mt , ft)
- New digital instrument added: **FL** (flight level in hundreds of ft)
- Bug fix: the issue with the plotter's design, which in very rare occasions, would cause the instrument to malfunction has been fixed.
- Known issue: in certain very unlikely combinations, related to the map drawing, it could be possible that the instrument will malfunction (usually noticeable on the ground). As a temporary fix, we suggest setting the ELVM map parameter to 0 in order to exclude the topographic map drawing.

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