



AIR-BT & AIR-BT-Pitot Firmware release notes (September 9th 2020)

610d-019 (September 9th 2020)

- **New Acoustic Vario and New Pre-Configured Sound Profiles**

The new acoustic vario has been rendered more flexible and more powerful, capable of emulating any type of sound; this function is very important because it allows a pilot coming from any other instrument brand to set up the acoustic vario so that it will have the same sound profile to which he/she was used to. For example, selecting PROF=DG3, acoustic vario will sound like a Bräuniger / Flytec vario.

Acoustic Vario Parameters:

- Variometer Setup \ n.4 **DYNH** “Enable Dynamic Frequency”: OFF=disabled, ON=enabled (default)
Note: It will apply to every sound profile.
- Variometer Setup \ n.5 **DUMP** “Dynamic Frequency Average” : from 1 to 15= (default 15) 1=no average, 15=max. average. Remember: this parameter only works if the DYNH parameters is ON and is set up according to your own personal taste, every time a different sound profile is selected: It is already a compromise between response rate and fluidity: very low values will produce quite a reactive sound, but it will make the “piano” effect with abrupt note changes and with very high values, the sound will be a lot more fluid, but it may lag on the response rate side
Note: It applies to every sound profile.
- Variometer Setup \ n.6 **PTMD** “Pre-Thermal Mode”: 0=pre-thermal sound during glide only (default), 1= pre-thermal sound during both thermal and glide.
Note: In previous firmware versions, this function could be enabled using the Variometer Setup parameter **AUTV** set to **FUL**, in this version, the **AUTV** parameter is limited to **ON/OFF** (setting the autovario to on or off).
Note: It applies to all sound profiles.
- Variometer Setup \ n.7 **PROF** : “Acoustic Vario Profile”: SFT, STD, FAS, US1, US2, MAN, DG1, DG2 (default), DG3, DG4

The following preset sound profiles were added to this firmware version: DG1, DG2, DG3, DG4

- **DG1**: this sound profile corresponds to the previous default sound profile on firmware 506a.
Note: The suggested initial settings for this profile are:
 - DYNH=OFF
 - DUMP=15
 - PTMD=0
 - PROF=DG1
 - RVAR=16
- **DG2**: (default) new Digifly official sound profile.
Note: The suggested initial settings for this profile are:
 - DYNH=ON
 - DUMP=15
 - PTMD=0
 - PROF=DG2
 - RVAR=5



- **DG3:** sound profile equivalent to the Bräuniger / Flytec standard sound.
Note: The suggested initial settings for this profile are:
 - DYNH=ON
 - DUMP=15
 - PTMD=0
 - PROF=DG3
 - RVAR=5

- **DG4:** Equivalent Bräuniger / Flytec slightly more “aggressive” sound profile.
Note: The suggested initial settings for this profile are:
 - DYNH=ON
 - DUMP=15
 - PTMD=0
 - PROF=DG4
 - RVAR=5

If the Variometer Setup parameter \ n.7 **PROF=MAN** the following parameters will be enabled; otherwise, they are irrelevant:

- Variometer Setup \ n.8 **UPHZ:** basic climb frequency: 400.....1400 Hz (500 Hz default)
- Variometer Setup \ n.9 **MODH:** climb modulation frequency: 1....25 Hz (14 Hz default) Hz/10cm
- Variometer Setup \ n.10 **CURH:** climb curve selection frequency: 1...4 (2 default)
- Variometer Setup \ n.11 **TONB:** base ton time: 100....1000 mS (400 mS default)
- Variometer Setup \ n.12 **TOFB:** base toff time: 0....1000 mS (300 mS default) (0=continuous sound)
- Variometer Setup \ n.13 **PITC:** climb cadence curve selection: 0....10 (2 default)
- Variometer Setup \ n.14 **DWHZ:** basic sink frequency: 350.....1000 Hz (400 Hz default)

Note: these default values (from UPHZ to DWHZ) are identical to those preset for the DG2 sound profile.

• Acoustic McCready

- **Conditions for setting up and turning the McCready sound on:**
 - McCready sound enabled: Advanced Setup n.22 MCRS=1
 - Pitot enabled: Advanced Setup \ n.1 PITO=IAS or TAS
 - Polar enabled: Advanced Setup \ n.10 POLA=P-1 or P-2 or P-3
 - The instrument must NOT be on the “Info GPS” page (while on this page, long pressing the “M” button will create a “mark gps” point)
 - The instrument must NOT be on the “Map” page (while on this page, long pressing the “M” button will access map options)
 - The instrument must be on a page that displays the “Analog Vario Bargraph”
 - The graphic Equivalent McCready indicator ranges from 0,0m/s and up
 - Instant vario in sink
 - “Glide” flight mode
 - Long press the “M” button (the Digifly will beep twice, to confirm that the acoustic McCready is now on)

Note: Once turned on and while on glide, the acoustic McCready will emit a sound to let you know that you are in sink, regardless the page you are on.

You will not mistake the Equivalent McCready and the Pre-Thermal sounds because when the acoustic McCready is enabled (MCRS=1), the Pre-Thermal and Sink Alarms are disabled.



- **Conditions to Turn the Acoustic McCready Off:**
 - The instrument must NOT be on the “Info GPS” page (while on this page, long pressing the “M” button will create a “mark gps” point)
 - The instrument must NOT be on the “Map” page (while on this page, long pressing the “M” button will access map options)
 - Long press the “M” button (the Digifly will beep once, to confirm that the acoustic McCready is now off)

Note: the acoustic McCready will also be automatically disabled every time the instrument is turned on and every time you access the MENU page.

- **Example:**
 - Required setting: Advanced Setup \ n.22 MCRS=1, Advanced Setup \ n.1 PITO=IAS (or TAS), Advanced Setup \ n.10 POLA = P-1 (or P2 or P3).
 - Instrument on pg 8 XC Glide (example); the Standard pg 8 has the analog graphic vario with the Equivalent McCready).
 - Flying on “Glide” mode (which means that you are on a somewhat straight course for at least 15 seconds).
 - Vario in sink (for example flying at -0.2m/s, approx. -40fpm).
 - Adjust the gliding speed until the graphic Equivalent McCready indicator reaches the desired value (for example, +2.5m/s, approx. 500fpm).
 - You long press the “M” button to turn the acoustic McCready on (you will hear a confirmation double beep) and saves the current Equivalent McCready as the target McCready value to maintain during glide.
 - The target McCready range is: 0m/s ... +10m/s.
 - From this point on, when gliding and in sink, you will hear a pulsing sound with a frequency that is proportional to the deviation of the current Equivalent McCready regarding the target Equivalent McCready. The sound will be emitted only when the deviation is higher than +/- 0.3m/s, approx. +/-60fpm (quiet zone or dead band).
 - To turn the acoustic McCready off, simply long press the “M” button again (a single beep will confirm your input)

- **New Telemetry Management**

The way the Telemetry is managed has been enhanced and is now more flexible thanks to the use of the new parameters:

- Advanced Setup \ n.26 **TGPS** “Enable GPS Telemetry”: 0 (default) = no GPS data is transmitted, 1 = GPS data is transmitted one time per second.

Advanced Setup \ n.27 **TAIR** “AirData Telemetry Protocol”

This new parameter replaces the old TELE parameter, which used to define the type of protocol used to transmit the “AirData” information (default=DGF):

DGF “\$PDGFTL1,QNE m,QNH m,vario cm/s, , IAS km/h, L/D ground tens, , , volt battery hundreds, *chksum[CR][LF]”

LK8 “\$LK8EX1,,altitude QNE m,vario cm/s,,volt battery hundreds*checksum[CR][LF]”

LXW “\$LXWP0,,IAS(km/h),baroaltitude QNH(m),vario(m/s),,,,,,*checksum[CR][LF]”

_PR “_PRS 17AB4[CR][LF]” barometer in hundreds of mb in 5-digit hex (Flynet _PRS protocol)

PRS “PRS 17AAD[CR][LF]” barometer in hundreds of mb in 5-digit hex (BlueFly PRS protocol)

BF5 “\$BFV,pressure(Pa),vario(cm/s),,,*checksum[CR][LF]” (BlueFly BFV5 protocol)

BF6 “\$BFV,pressure(Pa),vario(cm/s),,,volts(V)*checksum[CR][LF]” (BlueFly BFV6 protocol)



- Advanced Setup \ n.28 **TFRQ** “AirData Telemetry Frequency”: defines the frequency in which the “AirData” information is transmitted: 0 (default) = no AirData is transmitted, from 1 to 10: transmits AirData from 1 to 10 times per second.

- **New Bluetooth Management Options Compatible with iPhone and Android:**

- We have added the possibility to communicate with certain iPhone Apps (ex. Flyskyhy) using "Bluetooth BLE" mode (set the BLUT parameter to BLE).

Note: the "Bluetooth BLE" mode can be activated only on AIR BT instruments with serial numbers 4000 and above.

In order to communicate with Android devices, use the standard "Bluetooth SPP" mode (set the BLUT parameter to SPP).

- Advanced Setup \ n.29 **BLUT** “Enable Bluetooth Module”: OFF (default), SPP (SPP only), BLE (BLE only), AUT (automatic selection of SPP or BLE)

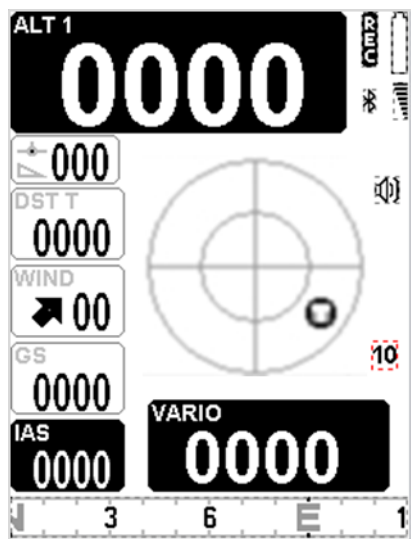
- **New “Auto Import” (from microSD) function**

This function is very helpful to automatically import all the files in the microSD’s \AUTOIMPO folder.

For example, it is possible to upload the new help file directly to your instrument, the steps are as follow:

- Correctly insert the microSD on your PC/Mac/Smartphone.
- Create a folder named \AUTOIMPO and copy the help files you want to upload to the new folder, in this example, it would be the U245_Help_IT_v2_Air_610c1.CCC
- Remove the microSD from your PC/Mac/Smartphone.
- Ensure that your Air is turned OFF and the microSD is in the correct position before inserting it.
- Turn your Air ON, then go to MENU and to the “microSD Manager” function.
- Enter the “Auto Import” submenu and press the OK button.
- Once the instrument is done uploading the files, it will automatically return to the “microSD Manager” function.
- Exit the menu page and go back to the instrument’s regular pages.

- **Modification of Page 10 (Standard Version): layout optimization and new information added.**





- **Page Number Added to each of the Standard Pages**
- **New Information Added to the “Info Gps” Page:**
 - Type of Fix Information: GPS = normal fix, SBAS = fix with SBAS backing
 - Number of Satellites Used for Fix
 - Information on the battery’s voltage “vbat”

506a-019 (April 11th 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 27th 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 12th 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 FAIT 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 10th 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 11th 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.

Digifly Offices	
Corporate Headquarters Digifly Europe Srl Bologna Italy Phone : +39 370 1167217 Web : www.digifly.com E-mail : info@digifly.com	North, Central and South American Headquarters Digifly USA St. Augustine, FL USA Phone : +1 (240) 343-5987 Web : www.digiflyusa.com E-mail : flydigifly@gmail.com