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## **firmware 66.0 (06/05/2011) release notes**

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### **VERY IMPORTANT :**

How to reset your vario if it "freezes" :

- to reset the LeonardoPlus, LeonardoPro or LeonardoProBt press together the "power-on" key and the "down arrow" key for 3 seconds
- to reset the LeonardoLithium press for 2 seconds the small switch in the back of the vario
- to reset the old Leonardo remove the AA battery

### **Navigation:**

- Leoplus now has the same full features navigation of the LeonardoPro (start pilon , 12 routes and 2 data base Wpt User , Wpt Competition)
- faster navigation and gps reaction
- every route now is a "stand alone" task : it includes all information needed for the competition, it no longer needs a waypoint data base, so for the competition you would need only 1 task (route).
- competition waypoints and user waypoints are now equivalent and have all the same new extended features.
- is no more necessary to deactivate a navigation before activating a new one, you can freely activate any navigation to a route or to a single wpt (goto) at any time
- the wpt altitude is calculated using the name with the format ABCnnn (nnn=tenth of meters) , if nnn is not present then the altitude field is used.
- the Chrono is resetted when start pilon time gate is opened

### **- New Route editor :**

- from the route menu select the desired route pressing the "volume key" or the "page key"
- press the function key "EDIT" to open the drop down list of options :
  - 1) insert wpc ( to insert a wpt from the competition data base)
  - 2) insert wpu (to insert a wpt from the user data base)
  - 3) change wpc ( replace a wpt from the competition data base)
  - 4) change wpu (replace a wpt from the user data base)
  - 5) edit (edit the current wpt)
  - 6) delete (erase the current wpt)

For example , to insert a wpt comp :

- confirm "insert wpc" with the "YES" key, the comp wpt list opens , select the wpt with up/down arrows keys and confirm with "SAVE" or abort with "ESC"

To view wpt details press the "right arrow" key then press "ESC" to go back.

- now is possible to edit route/wpt even while the Cartesio/Leonardo is recording.

### **Nearest all wpt , Nearest Landings and Clear Nav :**

- new functions "nearest wpt" , "nearest landings" and "clear nav" :  
press "GOTO" key , a triple choice appears : "near" "clear" "land" :  
near = it shows a list with nearest wpt (any kind of wpt from both comp wpt and user wpt) , press "GOTO" to activate nav  
land = it shows a list with nearest landings wpt (only landings wpt from both comp wpt and user wpt), press "GOTO" to activate nav  
clear = deactivates all existing navigation (if any)

### **Optimized Route :**

- optimized route with indications to the shortest way
- new bearing BRG\_0 directs you to the wpt centre
- the bearing BRG\_1 directs you to the optimized point on the current wpt cylinder
- new DST\_0 indicator (DIST.TO CYL ) : it displays the shortest distance to the current wpt cylinder
- all info with reference 1 (dst1, eff1 , height1 , HSI etc etc ) are always related to the optimized point of the current wpt
- the optimized point of the current wpt is displayed with a small crosshair in the plotter

### **Multiple wpt with the same coordinates in a route :**

- new management of multiple wpt with same coordinates according to new 2011 competition rules
- to manage the validation when exiting from a wpt cylinder you have to setup the "REV" option in the desired wpt from the edit route menu.

### **Plotter page :**

- circles are drawn with better shape

- displayed also the circle of the next wpt
- the full line points to the center of the current wpt
- the dashed line points to the optimized point of the current wpt
- new **Auto Zoom** function :  
the plotter map scale is automatically switched to the thermal zoom level (default **0.120km** - 2m/pixel) or to the cruise zoom level (default map scale **4km** - 65m/pixel) using the gps tracking.
- new **AutoScale** function : when the plotter is switched to cruise mode the zoom level is automatically scaled to display the current waypoint in the screen
- Both zoom levels can be also manually changed with zoom- and zoom+ key
- the map scale indicates the whole map size in km
- for a cleaner plotter view the track is displayed only when the map scale is 0.120km or 0.250km

#### Compass page:

New graphic compass with higher speed and 10 times higher resolution ( 2 degree changes instead of previous 22 degree)  
Two new icons : a small full circle crossed by a line points to the optimized route , a triple circle points to the center of the current wpt.

#### Other:

- improved the wind Calculator (please set the new parameter **WSEN = 5** in advanced setup.
- new wind direction arrow indicator always visible in compass and plotter pages .
- faster vario reaction (please set **RVAR = 0** in main-setup)
- added a new parameter **CORD** = coordinate type in advanced setup
- Auto-Silence acoustic vario : can be configured with the new **AUTV** parameter and allow the acoustic vario to start automatically only after the takeoff is detected. (please set **AUTV = ON** in main-setup)
- Auto-Stop recorder function for better logger memory management.
- no more "dummy" 2d flights in Cartesio/Leonardo but only 3d flights for a better logger memory management.
- Cartesio/Leonardo has now the min/max ground speed record in the logbook min/max flight table
- number of help files extended to 14.
- removed the "REC LOCK" limitation , now is always possible to use all menu even if the recorder is activated
- 2 new independent totalizers recorded on the instrument :  
total\_flight\_time : is the sum in minutes of all flights time (0-65535 minutes =1093h)  
total\_flights : total flights counter (0-65535)  
These 2 counters can be set to display with the VlttoolsConfigurator2011
- the bluetooth icon now is managed also in the menu "vlttools".

#### Vlttools2011 :

- New free software Digify Vlttools2011 : it includes also all functions of the old Vlttools2009 for a complete management of route/waypoint too.
- it works with a completely new Digify protocol with much faster PC to instrument communications.
- new flight list table from which it is possible to download and add the digital signature (G record) to any single flight
- new extended pilot information management (uploadable to your instrument).
- 2 new independent totalizers recorded on the instrument :  
total\_flight\_time : is the sum in minutes of all flights time (0-65535 minutes =1093h)  
total\_flights : total flights counter (0-65535)  
These 2 counters can be set to display with the VlttoolsConfigurator2011
- display and edit the 2 counters stored on the vario :  
total\_flight\_time : the sum in minutes of all flight times (0-65535 minutes =1093h).  
total\_flights : total flights counter (0-65535).

A very special thanks to Fabrizio Cavadini for this great software.

#### Communication :

- added new functions to the MLR 38400 FAST protocol to be used with GpsDump, CompeGps and MaxPunkte :
- competition waypoint and user waypoint upload / download
- point the cursor over "wpt comp" or "wpt user" menu to select which wpt data base to upload / download
- when the cursor is over "logbook" or over the single flight row it is possible to download the flight and to download the competition wpt ( this is useful for the score keeper to download the pilot id)

#### Direct data transfer between two Leonardos :

- every Cartesio/Leonardo can directly send the "task" or the waypoint data base to another Cartesio/Leonardo in a few seconds with a simple twin wire cable :

- 1) connect the master Leonardo to the slave Leonardo with the cable
- 2) place both Leonardo in "vltools" menu
- 3) select on the master Leonardo which data base has to be sent with the related arrow : up=comp wpt, left=route1 , right=route2 , down=user wpt

P.S. to run a competition task you need only to send the task route to the slave Leonardo

#### LK8000 :

- new real time telemetry with direct interface to the free software LK8000 that runs on standard color PNA or cell phone.
- it includes also variometer , altimeter and air speed
- the LK8000 is connected to the LeonardoPlus/LeonardoPro trough serial cable or to the LeonardoProBt via bluetooth.
- it runs on a lot of low cost ( around 80 euros) car navigator based on WindowsCE , i.e. Mio M400
- it' is an open source project
- available for free at this link <http://www.lk8000.it>

A very special thanks to Paolo Ventafridda for this great software.

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#### Bug fixes :

**bug fix** : now is possible to download every single flight with digital signature IGC using VTools2011

**bug fix** : corrected the right value of the min vario in the min/max flight table (logbook menu)

**bug fix** : improved indications to wpt2 and to goal

**bug fix** : now is possible to erase a single wpt

**bug fix** : corrected Fahrenheit indications

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#### VLTOOLS 2011



