

## **USER MANUAL**

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N.T New Technologies S.r.l. – Via A. Colombo n° 130 – 21055 Gorla Minore (Va) – www.glider.it

Switching on the system the last used map will be automatically upload and then you get the following main menu page:

MAIN MENU		
PRE-FLIGHT	⇒	
FLIGHT	$\Rightarrow$	
NAVIGATION	$\Rightarrow$	
SETUP	$\Rightarrow$	
POLAR	$\Rightarrow$	
FLIGHT RECORDER	$\Rightarrow$	
FILE	$\Rightarrow$	
EXIT	⇒	

ALWAYS USING THE ARROWS ☆ AND ∜, YOU SELECT ONE OF THE AVAILABLE OPTIONS AND THE SELECTED OPTION APPEARS WITH BLACK BACKGROUND. PRESSING OK & YOU OPEN THE SELECTED OPTION.

PRE-FLIGHT MENU		
ALTITUDE	XXX	
QNH	XXXX.X	
LOCAL TIME	XXX	
GLIDER	XXX	
GLIDER ID	XXX	
PILOT NAME	XXX	
COMP. ID	XXX	
CLASS	XXX	

<u>ALTITUDE</u>: is the value in meter of the place where you are. You have the cursor over the altitude value. If it is good, pressing  $OK \notin$ , you move to the following position, if not using the arrows  $\hat{U}$  and  $\hat{V}$  you can modify, increasing or decreasing, the value of the <u>**ONH**</u> and automatically the value of the altitude.

**LOCAL TIME**: is the number of hours you want to add to the UTC GPS hour value.

Now verify that the information, in the following lines, <u>**GLIDER**</u>, <u>**GLIDER**</u>, <u>**PILOT**</u> <u>**NAME**</u>, <u>**COMP. ID**</u>, <u>**CLASS**</u> and <u>**FIX RATE**</u> are correct. If not, please, go to the FLIGHT RECORDER MENU page to make the necessaries modifications.

Anyway to go ahead you have to press  $OK \notin$  in all the above lines and you will be in the FLIGHT MENU.

If you want to come back to MAIN MENU page press OK *d* over MAIN MENU option.

FLIGHT MENU	
BUGS ALT. MARGIN ALT. FILTER VARIO FILTER METER EFF. TIME EFF. REFRESH SC TIME SC FILTER AAST MODIFY TURNPOINT DISPLAY SOUNDING GOTO WIND	<ul> <li>(0-5)</li> <li>(mt)</li> <li>(1-30)</li> <li>(1-30)</li> <li>(0.5-1-2)</li> <li>(sec)</li> <li>(sec)</li> <li>(sec)</li> <li>(5-30 sec)</li> <li>⇒</li> <li>⇒</li> <li>⇒</li> <li>⇒</li> <li>⇒</li> </ul>
MAIN MENU	$\langle \neg$

In order to enter FLIGHT MENU you can also press F2 on the stick and using the arrows  $\hat{U}$  and  $\hat{V}$  you can choose one of the following options:

**<u>BUGS</u>**: with arrow  $\Rightarrow$  you can move over the bugs value and change it pressing arrows  $\hat{\Upsilon}$  and  $\mathcal{P}$ .

We have six different values 0-5, 0 is the best and 5 is the worst condition.

**<u>ALT. MARGIN</u>**: is the value in meters of the requested altitude over the next waypoint.

With arrow  $\Rightarrow$  you can move over the margin value and change it pressing  $\hat{U}$  and  $\hat{V}$ , each time you press the arrows you change of 100 meters.

**<u>ALT. FILTER</u>**: modifying this value you can have smoothly indication of the gliding required altitude value.

**VARIO FILTER**: is the speed of the variometer answer, as lower is the value much faster is the answer. With arrow  $\Rightarrow$  you can move over the filter value and change it pressing  $\hat{v}$  and  $\bar{v}$  (*recomended*: 2/3/4).

**<u>METER</u>**: is the variometer end scale value, with arrow  $\Rightarrow$  you can move over the meter value and change it pressing  $\hat{r}$  and  $\hat{v}$ .

0.5 value means end scale value 3 m/s, 1 means 6 m/s, 2 means 12 m/s.

**EFF. TIME**: this value is the time in second which the system is taking in care in order to calculate the efficiency, with arrow  $\Rightarrow$  you can move over the eff. time value and change it pressing arrows  $\hat{T}$  and  $\hat{\Psi}$  (*recomended:* 45).

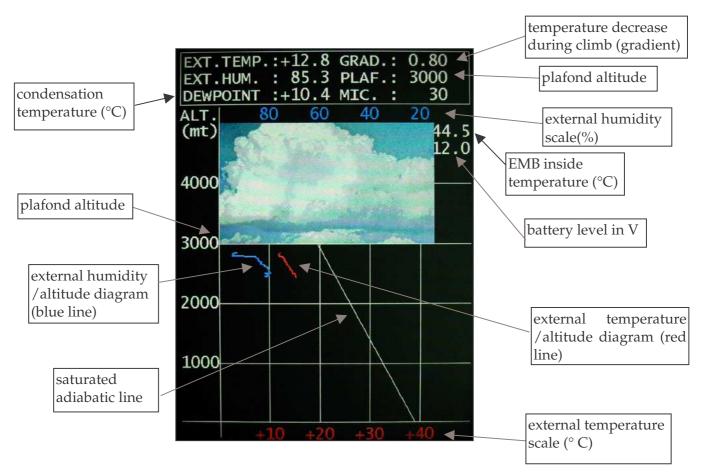
**EFF. REFRESH**: this value is the timing in second the system is taking in care to update and display the efficiency indication, with arrow  $\Rightarrow$  you can move over the eff. refresh value and change it pressing  $\hat{T}$  and  $\hat{V}$  (*recomended:* 1).

<u>SC TIME</u>: the Speed Command information are coming from the last flight datas detecting during the time here setted.

**<u>SC FILTER</u>**: this function set the speed command sensibility, changing the time, in seconds, during which the SC average value displayed on the screen has been calculated.

**AAST MODIFY TURNPOINT**: this option allows you to modify the position only of the remaining turnpoint to complete the task. In order to modify the turnpoint position you must follow exactly the same procedure as done to create the same area task.

**DISPLAY SOUNDING**: choosing this option you could have the thermal sounding diagram on the screen.



If on the diagram you could have a violet horizontal line, indicating a possible thermic inversion.

**<u>GOTO</u>**: pressing  $OK \notin$  on this option you can choose how to display on the screen the list of the waypoints already stored.

Using arrows  $\hat{1}$  and  $\hat{4}$  you can display the waypoint per NAME, NUMBER, DISTANCE, TYPE, R TASK and AREA TASK.

To confirm you choice press  $OK \notin$ . When you have the requested list on the screen using arrows  $\hat{U}$  and  $\hat{V}$  you choose the waypoint and pressing  $OK \notin$  you confirm. Now when you come back to the map page you will see the waypoint above chosen.

	WIND MENU	
M F	VG TIME STRAIGHT W. IAX.ANGLE VAR. ILTER LIGHT MENU	(sec) (deg) (1-9) ⇔

**AVG TIME STRAIGHT W.**: you could set the time (in seconds) during which are used the datas for the calculation of the straight wind updated every second (*recomended: between 6 - 12*).

**MAX.ANGLE VAR.**: you could set the maximum variation of the Heading, during AVG TIME, in which the straight wind will be calculated.

**FILTER**: modifying this value you can get a slower (9) or fast (1) wind indication.

As soon as you have completed the WIND MENU page pressing arrow ⇔ come back to FLIGHT MENU page.

NAVIGATION N	MENU
WAYPOINT	$\Rightarrow$
TASK	$\Rightarrow$
AIRSPACE	$\Rightarrow$
MAP	$\Rightarrow$
MAIN MENU	$\Diamond$

In **<u>WAYPOINT</u>** and <u>MAP</u> option pages you have all the data already stored.

Using  $\hat{U}$  and  $\hat{V}$ , select the required data, which appears with black background, pressing OK $\mathcal{A}$  you confirm your selection having the relative waypoints and airspace information available during flight.

The WAYPOINT files must be in .dat format, the AIRSPACE in open air<sup>™</sup> .txt format. You could download the MAP, already on line, from our website, if you wish some other map, please, contact us.

Selecting **<u>AIRSPACE</u>** you will get the following menu:

AIRSPACE MENU	
LOAD >	
R Restricted	TRANSPARENT
Q danger	TRANSPARENT
P prohibited	FILLED
A Class	TRANSPARENT
B Class	BORDER
C Class	BORDER
D Class	BORDER
E Class	BORDER
GP glider pro.	FILLED
CTR	FILLED
w wave window	BORDER
OTHER	BORDER
WARNING DISTANCE	1 Km
WARNING QUOTA	500 mt
SWITCH TO MAP	YES
NAVIGATION MENU<	

You can choose how to display each airspace type. The option are TRANSPARENT, FILLED, BORDER and DISABLED.

With the WARNING DISTANCE /QUOTA option, you can decide how far, horizontally and vertically, from the airspace you would like to get the first warning message. The message is visual and acoustic, with a short blinking, and appears in the maps and in the instruments pages. At the screen you can see, with a positive (+) number written on a yellow background, how far, vertically and horizontally, you are from the airspace. When you are inside an

airspace, the numbers become negative (-) and the background violet color. You can switch off the alarm pressing the OK button or touching the screen. In this case, if you keep approaching the airspace, automatically, the alarm will appear again each time your distance, from the airspace, is half of the value which caused the previous alarm. With the SWITCH TO MAP option, you can switch automatically to the map page with the space alarm message.

In the map you have the wind direction and strenght shown by arrows. The direction is the direction of the arrow and the strenght is the number of the arrows (max 3). Each arrow is 10 km/h (max 30 km/h).



TASK MENU	
R TASK	⇒
AAST	⇒
AA D T	$\Rightarrow$
F.A.I.	$\Rightarrow$
NAVIGATION MENU	$\Diamond$

At the moment are working the **<u>R TASK</u>** and **AAST** option.

**<u>IMPORTANT</u>**: each time you use the waypoint list, on the bottom of the screen, you will have all the waypoint information as per your waypoint .dat file. With white color the reachable points, in red the unreachable ones. The reachable waypoints are automatically displayed on the map pages with white name on red background. **The calculation is done without the wind influence.** To make easier the use of the waypoint list, arrows  $\Leftrightarrow$  have the page up e page down functions.

If you make mistakes choosing the waypoints, pressing button 1 you have undo function.

1 RIETI FINISH	7 TAHF
236 CASCIA	32 L
166 L'AQUILA	32 TAF
225 PRETURO	33 A
210 FOLIGNO	54 A
254 TODI 227 ROMA URBE 204 CELANO 229 VITERBO 222 PERUGIA 237 CORFINIO 230 SULMONA 233 GUALDO TADIN 212 FROSINONE 216 LATINA 223 PESCARA 231 VALDICHIANA	56 A A A A A A A A A A A A A A A A A A A

To prepare a new R TASK press  $OK \notin$  using the option you will have on the screen the following menu:

R TASK MENU	
WAYPOINT ORDER	
CYLINDER RADIUS	(mt)
START LINE LENGHT	(mt)
FINISH LINE LENGTH	(mt)
FINISH LINE BEARING	
MAX START SPEED	(km/h)
MAX.ALTITUDE START	(mt)
MAX.ALTITUDE TASK	(mt)

Using  $\hat{U}$  and  $\hat{V}$  you select one of the above the options, which appears with black background.

In the **WAYPOINT ORDER** option using the arrows  $\hat{U}$  and  $\hat{V}$  you can choose if you want the waypoints displayed by NUMBER or NAME.

In the **CYLINDER RADIUS** option using the arrows  $\hat{U}$  and  $\hat{V}$  you can modify, increasing or decreasing, the radius value of 50 meters each time you press the arrows. When, approching the waypoint, your distance is less than the CYLINDER RADIUS value, automatically the map will show you the next waypoint.

**<u>START LINE LENGHT</u>**: max starting line lenght in meter. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{1}$  and  $\bar{2}$  by 100 meters each time you press the arrow.

**FINISH LINE LENGTH**: max finish line lenght in meter. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{U}$  and  $\hat{\Psi}$  by 100 meters each time you press the arrow.

**FINISH LINE BEARING**: finish line direction related to the finish leg bearing. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\uparrow$  and  $\downarrow$  by 1 degree each time you press the arrow.

**MAX START SPEED**: max starting speed in km/h. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{1}$  and  $\hat{2}$  by 10 km/h each time you press the arrow. If the differenze between your speed and the setted value is less than 10 km/h, you have an authomatic image and sound warning.

In the **MAX.ALTITUDE START**, you could modify the max altitude (*in mt*) of the start. If the differenze between your altitude and the setted value is less than 100 mt., you have an authomatic image and sound warning. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{T}$  and  $\hat{\Psi}$  by 50 meters each time you press the arrow.

In the **MAX.ALTITUDE TASK**, you could modify the max altitude (*in mt*) of the task.

If the differenze between your altitude and the setted value is less than 100 mt., you have an authomatic image and sound warning. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{T}$  and  $\hat{V}$  by 50 meters each time you press the arrow.

After the complete input of all the above mentioned values, pressig OK, you will have the list of the turning point.

Now you have on the screen the list of the waypoints, with the arrows  $\hat{v}$  and  $\bar{v}$  go over the starting point and press OK  $\not\in$ . On the screen will appear the name of the point plus a letter S for start, on the left side of the line. On the right side you have the distance from your actual position to the starting point, in the first line, in the following lines the distance from the

previous waypoint. Always on the right, there is the altitude you want over the waypoint and the total length of the task. Using the arrow  $\Rightarrow$  you can go over the altitude value, in meter, and modify it with  $\hat{T}$  and  $\mathcal{P}$  by 50 meters each time you press the arrow. At the end of each line press OK  $\notin$  to go back to the waypoint list and choose the following leg. When you are inserting the finish point using the arrow  $\hat{T}$  place the letter F (*final*) in the place of the letter L (*leg*) press OK  $\notin$  and now you can give a specific number (*between* 0 – 9) to the completed task, using the arrow  $\hat{T}$ , and save it pressing OK  $\notin$ .

In order to activate during flight the Task already stored, you can use the GOTO option. In this case you get on the screen the complete list of the above task. Using the arrows  $\hat{U}$  and  $\hat{V}$ , you can select the desired tasks, having immediately displayed on the bottom of the screen all the features of the task. So, you immediately know all the waypoints, including startin and final line, totale lenght of the task.

As soon as you have completed the R TASK MENU page pressing arrow ⇔ come back to NAVIGATION MENU page.

To prepare a new AA S T TASK press OK *d* using the option you will have on the screen the following menu:

# AA S T MENUCREATE NEW TASK⇒LOAD TASK⇒TASK MENU⇒

**CREATE NEW TASK**: pressing OK *A* you will have on the screen the following menu:

#### AA S T MENU

WAYPOINT ORDER	
START LINE LENGHT	(mt)
FINISH LINE LENGTH	(mt)
FINISH LINE BEARING	
MAX START SPEED	(km/h)
MAX.ALTITUDE START	(mt)
MAX.ALTITUDE TASK	(mt)
TASK TIME	(hh:mm)

Using  $\hat{U}$  and  $\hat{V}$  you select one of the above the options, which appears with black background.

In the **WAYPOINT ORDER** option using the arrows  $\hat{U}$  and  $\hat{V}$  you can choose if you want the waypoints displayed by NUMBER or NAME.

**<u>START LINE LENGHT</u>**: max starting line lenght in meter. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\uparrow$  and  $\clubsuit$  by 100 meters each time you press the arrow.

**<u>FINISH LINE LENGTH</u>**: max finish line lenght in meter. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{1}$  and  $\hat{4}$  by 100 meters each time you press the arrow.

**FINISH LINE BEARING**: finish line direction related to the finish leg bearing. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\uparrow$  and  $\downarrow$  by 1 degree each time you press the arrow.

**MAX START SPEED**: max starting speed in km/h. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{1}$  and  $\hat{2}$  by 10 km/h each time you press the arrow. If the differenze between your speed and the setted value is less than 10 km/h, you have an authomatic image and sound warning.

In the **MAX.ALTITUDE START**, you could modify the max altitude (*in mt*) of the start. If the differenze between your altitude and the setted value is less than 100 mt., you have an authomatic image and sound warning. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{T}$  and  $\hat{\Psi}$  by 50 meters each time you press the arrow.

In the **MAX.ALTITUDE TASK**, you could modify the max altitude (*in mt*) of the task.

If the differenze between your altitude and the setted value is less than 100 mt., you have an authomatic image and sound warning. Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{T}$  and  $\bar{V}$  by 50 meters each time you press the arrow.

**TASK TIME**: it's the minimum total time, in hours and minutes, to complete the task.

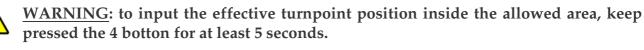
Using the arrow  $\Rightarrow$  you can go over the value and modify it with  $\hat{U}$  and  $\hat{\Psi}$  by 5 minutes each time you press the arrow.

Now you have on the screen the list of the waypoints, with the arrows  $\hat{T}$  and  $\hat{V}$  go over the starting point and press OK  $\mathcal{P}$ . On the screen will appear the name of the point plus a letter S for start, on the left side of the line. On the right side you have the distance from your actual position to the starting point, in the first line, in the following lines the distance from the previous waypoint. Always on the right, there is the altitude you want over the waypoint and the total length of the task. Using the arrow  $\Rightarrow$  you can go over the altitude value, in meter, and modify it with  $\hat{T}$  and  $\hat{V}$  by 50 meters each time you press the arrow. At the end of each line press OK  $\mathcal{P}$  to go back to the waypoint list and choose the following leg. When you are inserting the finish point using the arrow  $\hat{T}$  place the letter F (*final*) in the place of the letter L (*leg*).

Pressing  $OK \notin$  you will get the TASK with the possibility to input, following the competition rules, both the radius of the circle or the angle of the sector of the circle around the turning points. To input the radius value, using the arrow  $\Rightarrow$  place the cursor under the word Radius. Pressing the first time the arrow  $\hat{1}$  you can increase the Radius value of 500 mts. Each following pressure, the value will increase of 1000 mts. To input the value of the angle of the sector of the circle, using the arrow  $\Rightarrow$ , place the curso under the words ANG1 e ANG2. Pressing  $\hat{1}$  you can input the requested value angle by angle. To confirm each value press  $OK \notin$ .

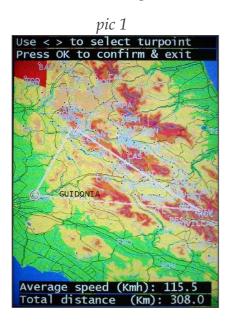
Press  $OK \not\in J$  and now you can give a specific number (*between* 0 – 9) to the completed task, using the arrow  $\hat{U}$ , and save it pressing  $OK \not\in J$ .

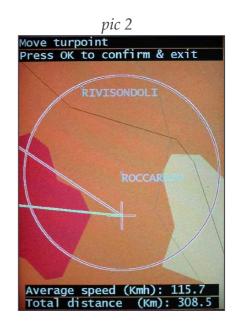
Now you have on the screen the complete Task (*pic 1*) and using the arrow  $\Rightarrow$  you can display on the screen one by one all the areas around the turning points. Pressing OK  $\notin$  appears the cross cursor exactly in the turning point position (*pic 2*). Now, using the four arrows  $\Leftrightarrow \square \square \Rightarrow$ you can chanche as you like the cursor position, without the possibility to exit from the competition allowed area. Automatically, for each cursor position, you have on the bottom part of the screen the total lenght and the required average speed for the complete task following the competition rules. Press OK  $\notin$  to confirm the turning points. Following the above procedure you can input the exact position of all the turning points.



As soon as you have completed the AA S T MENU page pressing arrow  $\Leftrightarrow$  come back to MAIN MENU page.

In order to activate during the flight the Task already stored, you can use the GOTO option. In this case you get on the screen the complete list of the above task. Using the arrows  $\hat{U}$  and  $\hat{V}$ , you can select the desired tasks, having immediately displayed on the bottom of the screen all the features of the task. So, you immediately know all the waypoints, including starting and final line, total lenght of the task.





During the task you can check the extimated arrival time (ETA) taking in care of:

- average speed of the task
- average ground speed in the last 10 seconds
- imputing manual speed

You can choose the above options pressing  $OK \not\subset A$  and the the arrows  $\leftarrow \Rightarrow$ .

- ETA value is green color if is bigger than the minimum requested task time and red color if is smaller
- RT, remaining time to the minimum time task
- DT, difference between ETA and the minimum time task (green if positive, red if negative)

**LOAD TASK**: allows to modify a task already prepared before using during the flight.



SETUP MENU		
RTASK WARNING	(km)	
SOUND TYPE	(0-1)	
SET HUMIDITY 100%		
IAS ADJUST	(km/h)	
BACKGROUND COLOR		
TIMEOUT START	(min)	
SOUNDING QUOTA	(mt)	
COMPASS SETUP	⇒	
VARIO/NETTO SETUP	⇒	
UNITS	⇒	
MAIN MENU	$\Diamond$	

Using 1 and  $\oiint$  you select one of the above options, which appears with black background.

**<u>RTASK WARNING</u>**: Approaching the waypoint, as soon as you reach the RTASK WARNING distance, automatically the map appears on the screen showing the waypoint area.

**SOUND TYPE**: choosing 0 the VARIO sound is different from the NETTO sound, with 1 the sounds are the same.

**SET HUMIDITY 100%**: during the first flight you must have the display on this option, having on the screen the following line: "SET HUMIDITY 100% XX YYY". Try to reach the condensation altitude in order to have as external condition 100% humidity. As soon as you are in such condition press 2 times  $OK \notin$  in order to set up the humidity sensor. Doing the above procedure, please, take in care that the number (XX) must be higher than 65. If not the humidity sensor is not setted. From now on the setup is stored.

**IAS ADJUST**: this function allows to set the IAS value as per your pitot position. Flying at around 120 km/h, with  $\hat{U} \in \mathcal{D}$ , you could modify the value shown on the screen, in order to be equal to the value of your airspeed indicator. This adjustment must be done very carefully. If not, you don't have an accurate wind calculation.

**BACKGROUND COLOR**: allows you to invert on the screen black and white colors.

If you like to change the setup you have to do again the above procedure.

**<u>TIMEOUT START</u>**: you must passing through the starting line within this value in minutes, after pressing the key 4 of the stick. In this case, you get a countdown on the screen, on the lower right corner, in the place of the TK ETA indication both on the variometer and map pages. During the last 10 seconds of the countdown, the indication of the remaining starting time is blinking. In case you forget to press key 4 before crossing the starting line, you can anytime start the Task pressing the key 4 at least for five seconds. Of course, in this case, in the statistics you have no information about the flight between the starting line and starting of the Task.

**<u>SOUNDING QUOTA</u>**: this value in meter is the gap value which the system is taking in care in order to show you the meteo sounding diagram, with arrow  $\Rightarrow$  you can move over the sounding meter value and change it pressing  $\hat{v}$  and  $\hat{v}$  (*recomended:* 400).

COMPASS SETUP	
SETUP FLIGHT CALIBRATION TCM INPUT SETUP MENU	① ① ① ①

**<u>SETUP FLIGHT</u>**: not available at the moment.

**CALIBRATION**: chosing this function, it will appear the following page on the screen:

COMPASS CALIBRATION				
NORD	C	0)	0	167
NORD/EST	(	45)	45	45
EST	(	90)	90	90
SUD/EST	(1	L35)	135	135
SUD	(1	L80)	180	180
SUD/WEST	(2	225)	225	225
WEST	(2	270)	270	270
NORD/WEST	(3	315)	315	315

Now, you have to proceed as follows in order to calibrate the compass.

Take in care to have the flight line and wings in horizontal position, rotate the glider until the sailplane head is in NORTH direction. Now press  $OK \notin$ . Repeat the above operation for all the direction (*listed on the above picture*), always being sure to have the glider in horizontal position. At the end, the calibration is completed and to save the data, go back to the MAIN MENU and exit using EXIT option. If during the calibration procedure the difference between the angle displayed on the right column and on the left column is more then 10° it means tha you are having too much magnetic interference on the EMB. In such condition you can't get an accurate wind calculation. You must remove the elements causing the magnetic interferences.

**TCM INPUT**: allows to plug-in an external electronic compass.

As soon as you have completed the SETUP MENU page pressing arrow ⇔ come back to MAIN MENU page.

You have to verify now if the calibration has been properly done. Open the variometer page and check if the heading value on the screen is correct, no more than  $2^{\circ}/3^{\circ}$  tollerance, with the direction of the glider head all over the  $360^{\circ}$  no matter the pitch and roll of the glider.



**VARIO AVG/NETTO AVG**: is the time in seconds used to calculate the average value of the VARIO and NETTO mode, with arrow  $\Rightarrow$  you can move over the avg value and change it pressing arrows  $\hat{T}$  and  $\hat{V}$ .

**<u>UNITS</u>**: using this option you can choose from metric to imperial units.

**AUDIO LEVEL UP VAR**: over this value, m/s, the audio starts playing, with arrow  $\Rightarrow$  you can move over the audio level up value and change it pressing arrows  $\updownarrow$  and  $\clubsuit$ .

**<u>AUDIO LEVEL DOWN VAR</u>**: below this value, m/s, the audio starts playing, with arrow  $\Rightarrow$  you can move over the audio level down value and change it pressing  $\hat{U}$  and  $\bar{V}$ .

**<u>AUDIO LEVEL UP SC</u>**: when you are faster more than the previous value, km/h, compared to the suggested gliding speed, audio starts playing, with arrow  $\Rightarrow$  you can move over the audio level up value and change it pressing  $\hat{T}$  and  $\hat{V}$ .

**<u>AUDIO LEVEL DOWN SC</u>**: this value is in km/h. When you are slower more than the previous value compared to the suggested gliding speed, audio starts playing, with arrow  $\Rightarrow$  you can move over the audio level down value and change it pressing  $\hat{T}$  and  $\bar{V}$ .

As soon as you have completed the VARIO/NETTO MENU page pressing arrow ⇐ come back to SETUP MENU page.

POLAR MENU					
MassDryGross:	kg	weight used to prepare the polar diagram			
RealMassDryGross:	kg	total take-off weight without ballast value			
Speed1	km/h				
Sink 1	m/s				
Speed2	km/h				
Sink 2	m/s				
Speed3	km/h				
Sink 3	m/s				
VNE	km/h				
Stall speed	km/h				
MAIN MENU	$\Diamond$				

Using the arrows  $\hat{1}$  and  $\hat{2}$  you select one of the above options, which appears with black background. Using  $\Leftrightarrow$  and  $\Rightarrow$  you move over the above options values.

Using the arrows  $\hat{U}$  and  $\hat{V}$  you can modify, increasing or decreasing, the above values.

All the weight values are in kg. and speed values are km/h. speed, sink, VNE and stall speed values must come from the specific polar diagram of your glider. As soon as you have completed the POLAR MENU page pressing OK *¢* over the MAIN MENU option you came back to MAIN MENU page.

If, for any reason, during the above menu pages you exit from the program, using the option EXIT, automatically the input data are stored. If you switch off the display without exit the program, you could loose some of the imput data. So, please, when you are coming back again to the program. Verify that all the imput data are properly stored.

FLIGHT RECORDER M	IENU
DOWNLOAD TO	
DOWNLOAD FLIGHT	⇒
DELETE FLIGHT	$\Rightarrow$
DEL.ALL FLIGHTS	⇒
SET GLIDER TYPE	
SET GLIDER ID	
SET PILOT NAME	
SET COMP.ID	
SET COMP.CLASS	
SET FIX RATE	
READ TASK DECL.	
MAIN MENU	$\Diamond$

Using 1 and  $\oiint$  select one of the above options.

With the function **DOWNLOAD TO**, pressing  $\Rightarrow$ , you can move to the function CF card, which allows you to store the flights in the CF card included in the CPU of the system. If in the digital box MMC/SD card reader is present the card, automatically you have a second option to download the flights. Using  $\uparrow$  and  $\clubsuit$ , you can choose CF Card or MMC/SD Card. Pressing OK $\notin$ , confirm your selection and move to the **DOWNLOAD FLIGHT** option. Pressing again OK $\notin$ , you get the list of the flights. Using  $\uparrow$  e  $\clubsuit$ , choose the flight you want download and confirm pressing OK $\notin$ .

The flights will be shown as follows:

#### 05-03-21 09:21:15 1:21:37

The firts group shows the date (*yy-mm-dd*), the second the starting hour (*hh:mm:ss*) and the third the duration of the flight (*hh:mm:ss*).

### ▲ WARNING: If you press OK on the <u>DELETE FLIGHT</u> and <u>DEL.ALL FLIGHTS</u> options, automatically you delete the selected flights.

To modify the following information <u>GLIDER</u>, <u>GLIDER ID</u>, <u>PILOT NAME</u>, <u>COMP. ID</u>, <u>CLASS</u> e <u>FIX RATE</u> select the lines and pressing OK *∉* will appear the following image:

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The above keyboard is working exactly as a mobile phone keyboard.

At the end, you will have again the list of the flights in order to download another flight if you want, if not pressing arrow  $\Leftrightarrow$  you come back to the FLIGHT RECORDER MENU.

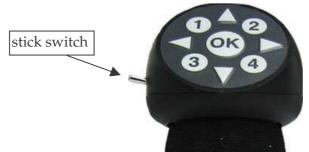
The options COPY WAYPOINT/AIRSPACE/MAP allows to automatically copy, from SD card, to the Easy system memory the waypoint/airspace/map files.

The options DEL WAYPOINT/AIRSPACE/MAP allows to delete, from the Easy system memory the waypoint/airspace/map files.

Choosing the function EXIT, pressing OK, you will exit from EasySoft.



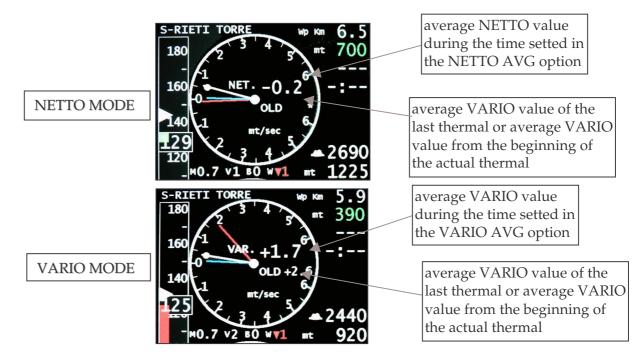
As soon as you will finish to imput all the data, using the remote stick control, you can open different screen pages as following better described.



Related to the flap switch position, the instrument has the following features.

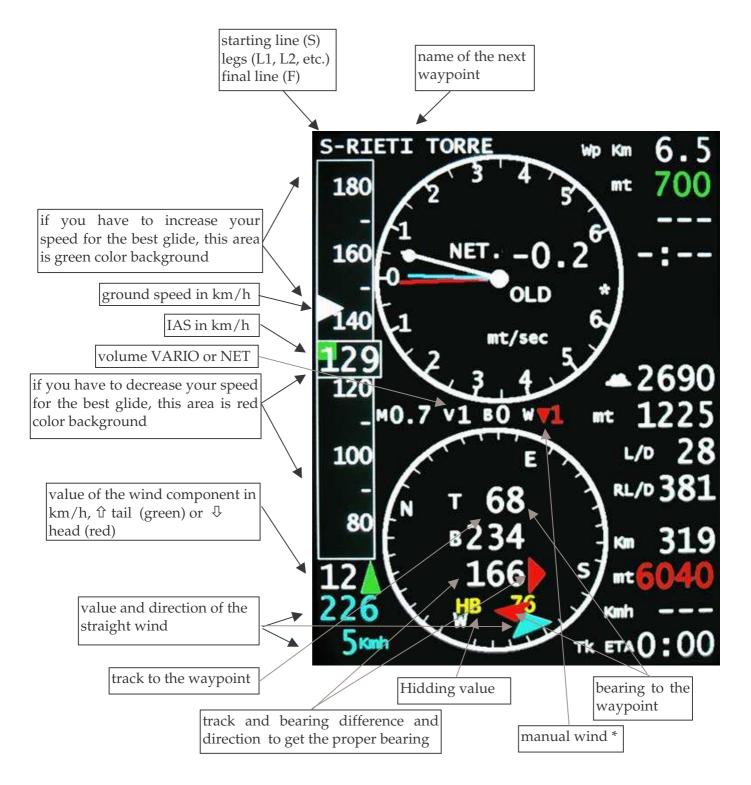
When you are in **VARIO MODE** in the instrument is written VAR, the needle with yellow dot is the altitude variation rate calculated following the VARIO FILTER value setted; the red needle gives the average of the above altitude rate in the last 6 seconds. When you are in **NETTO MODE** in the instrument is written NET. The needle with yellow dot gives the altitude variation rate of air mass, free of the climbing rate of the glider at the current speed, following the NETTO FILTER value setted; the red needle gives the average of the above altitude setted; the red needle gives the average of the above altitude variation rate of air mass, free of the climbing rate of the glider at the current speed, following the NETTO FILTER value setted; the red needle gives the average of the above altitude variation rate during the last 6 seconds.

The red needles give more accurate infos during turbolence.



The blue needle gives the variation, positive or negative, of the humidity during the last 20 seconds. If the above variation is more than 15% automatically is activated an acoustic alarm.





\* when W is 0, the wind strenght is automatically calculated by the flight computer. Increasing (green) or decreasing (red) the W value, you input the bearing wind component in km/h.



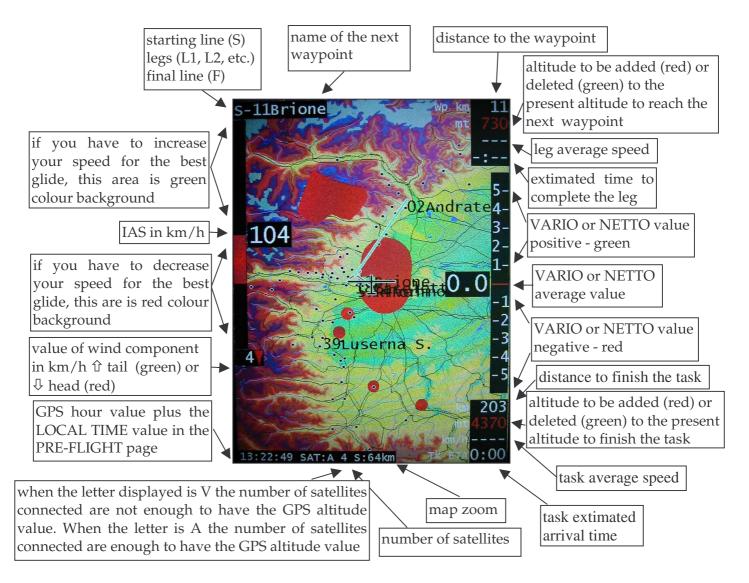
With  $\Leftrightarrow$  and  $\Rightarrow$  you can select the option McCready, Volume (is the VARIO or the NETTO volume if in the variometer on the screen you have VAR or NET), Ballast and Manual Wind. With the arrows  $\hat{T}$  and  $\hat{V}$  you can modify the selected values.

When you have the above image, if you press the touch screen anywhere, you get the following image.



At this point if you make blank the red square on the right of SHOW HUMIDITY, pressing the touch screen over the same square, and confirm pressing  $OK \notin$ , the instrument will be shown without the blue needle which is the humidity needle. If you do not want to change anything press CANCEL.

Pressing 1 again you go to the map page



The first leg of the task will be red colour, the second green. You have on the screen, always in red colour, the starting line 8 km length and finishing line. In order to confirm the start, press 4. In order to modify the zoom press  $\hat{1}$  to decrease it and  $\hat{2}$  to increase it. When you have the above image, if you press the touch screen anywhere you get the following image.

MAP MEN	1U
SHOW TERRAI	N
SHOW AIRSPA	CE
SHOW WAYPOI	NT
TRACK UP	
SHOW TRACK	
SHOW TRACK	
CANC	ОК

At this point if you unselect the red squares on the right of SHOW TERRAIN, AIRSPACE, and WAYPOINT, pressing the touch screen over the same squares, and confirm pressing  $OK \notin$ , the map will be shown without the selected information. Unselecting SHOW WAYPOINT, on the map, will appear only the waypoint of your TASK and of the GOTO. Normally the map is shown North-up, selecting TRACK UP, the map will be oriented following your track.

The SHOW TRACK option allows to display on the screen the glider track during maximum the last 2 hour.

If you do not want to change anything press CANCEL.

#### **IMPORTANT NOTES**

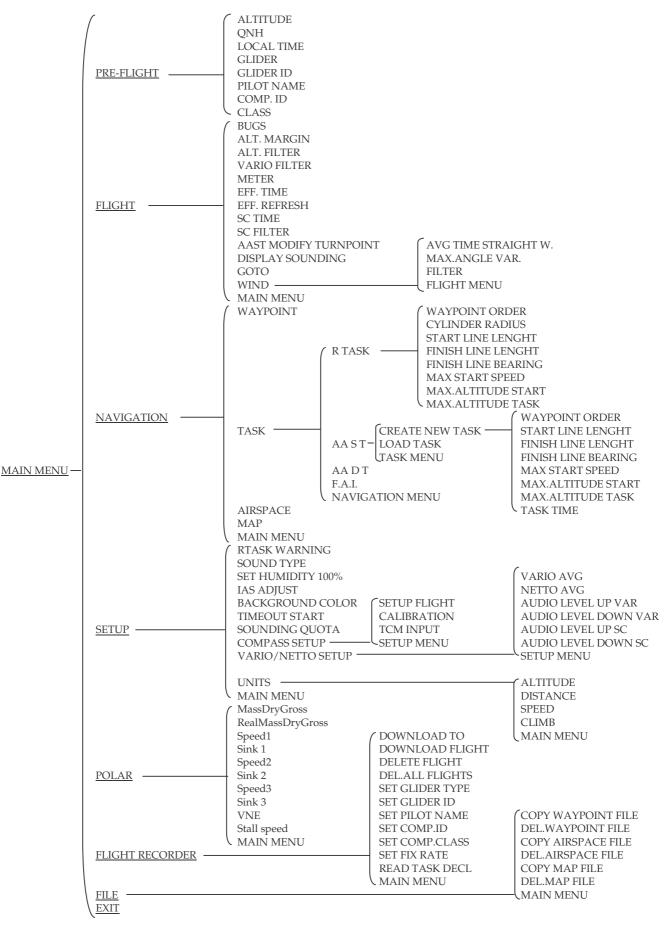
You can come back directly to the FLIGHT MENU, pressing 2.

The NEAREST function is automatically ON pressing the key 3. You get on the screen the list of the landable waypoints. The first waypoint of the above list is the nearest to your position.

Pressing together  $\hat{\mathbf{U}} \in \mathbf{D}$  on the stick, or the same keys of the pda, PEV function is on. In this case, during the followin 60 seconds , the fix is automatically 1 second.

To load new data as, for example, maps, airspace, waypoints etc, using a SD card you have to copy the new data in the NT100 directory which is the Compact Flash of the EASY DISPLAY system CPU. You can do it or by MMC card and SD card to be inserted in the reader of the digital box or you can do it using a notebook with Microsoft<sup>®</sup> Active Sync. To transfer the data connect the notebook to the digital box with a standard USB cable.

Visual and acoustic warnings automatically will advise you in case of low battery voltage, less than 10V or GPS missing signals less than two satellites.



#### MENU CHART