

User and mounting Manuel

GPS UNIK Rally Raid

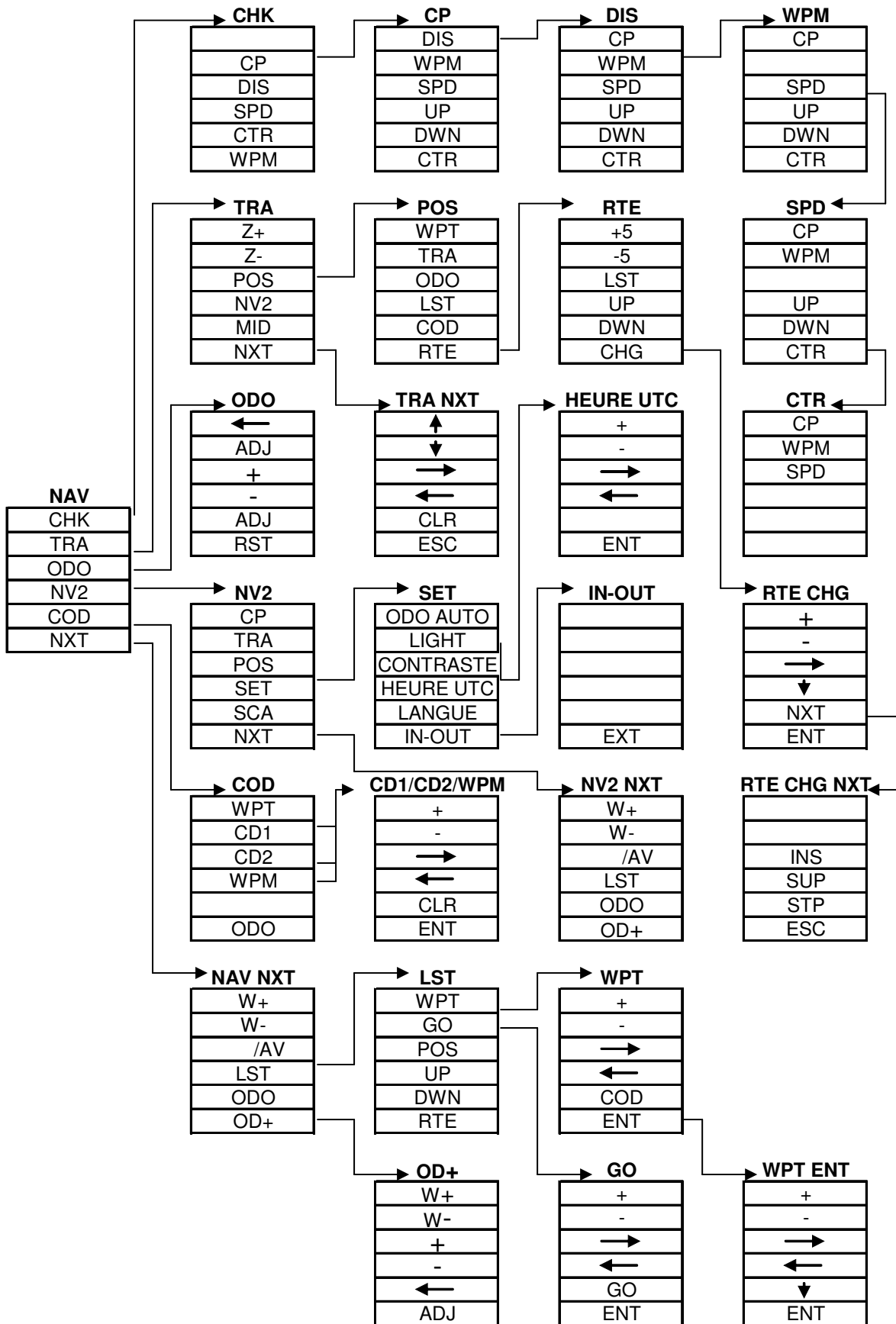


✱ COMPETITOR ✱



V 4.07

ERTF Compétition



SUMMARY

1. CONNECTION	2
1.1 ANTENNA.....	2
1.2 MAIN POWER SUPPLY	2
1.3 EMERGENCY POWER : EXTERNAL PACK BATTERIES	2
2. GPS UNIK RALLY RAID FUNCTIONING	3
3. BROUGHT INTO SERVICE / EXTINCTION	3
3.1 ICONS	3
3.1.1 <i>Non-reception satellite</i>	3
3.1.2 <i>Connections</i>	3
3.1.3 <i>Race number</i>	3
3.1.4 <i>Passage of a waypoint</i>	4
3.1.5 <i>Alarm Speed Village</i>	4
3.1.6 <i>Maximal speed alarm</i>	4
3.1.7 <i>Speed anticipation</i>	4
4. MENUS	4
4.1 PRINCIPAL NAVIGATION SCREEN	4
4.1.1 <i>COG</i>	4
4.1.2 <i>CTW</i>	4
4.1.3 <i>Direction arrow, waypoint target and waypoint name</i>	4
4.1.4 <i>SOG</i>	4
4.1.5 <i>DTW</i>	4
4.1.6 <i>WPM</i>	4
4.1.7 <i>WPE</i>	5
4.1.8 <i>NXT function touch</i>	5
4.1.8.1 <i>Operation in road mode activates (AV or AR)</i>	5
4.1.8.2 <i>Waypoint skip</i>	5
4.2 NAVIGATION SECONDARY SCREEN	5
4.3 TRACE SCREEN	6
4.4 CODE SCREEN	6
4.4.1 <i>Code 1 data entry screen: CD 1</i>	6
4.4.2 <i>WPM Code</i>	6
4.5 ODO SCREEN	7
4.6 LIST SCREEN	7
4.7 ROUTE SCREEN	8
4.8 WPT SCREEN	8
4.9 CP SCREEN	8
4.10 DIS PAGE	9
4.11 WPM SCREEN	9
4.12 SPEED SCREEN	9
4.13 CTR SCREEN	9
5. CONFIGURATION SCREEN	9
5.1 LIGHT	9
5.2 CONTRAST	9
5.3 UTC HOUR	9
5.4 IN-OUT SATELLITE RECEPTION	10

1. CONNECTION

1.1 ANTENNA

GPS must be connected to a **GPS antenna**.

To obtain the best reception, the antenna must be placed horizontally and as clear as possible (visible from all points of the sky) and must not be hidden by metallic or carbon parts, nor painted.

CAR/TRUCK:

You have to mount all the accessories provided with the antenna: rubber disc, metal disc and screw.

If you install two GPS in one vehicle, there must be at least one meter between the two antennas.

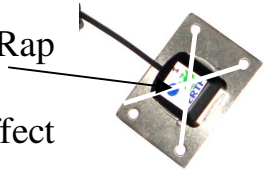


BIKE:

The GPS antenna has to be mounted on the **front of the bike** (front mudguard or at the top of the bubble or instrumentation cradle).

Mount the antenna directly on the mudguard and grip with 1 plastic Ty-Rap on the **two diagonals**.

Be careful with carbon fiber, metal, backpack... only plastic has no effect on the GPS's signal.



Put the antenna's cable as far as possible from electric wires, high voltage coil. Use self adhesive tape or low tightened Ty-Raps to fix it. Free cable parts have to be **protected with spiral binding** (50 cm provided).

1.2 MAIN POWER SUPPLY

Main and permanent power supply must be provided under a **continuous** tension, ranging from 9 to 30 V.

A 2A maximum **fuse** must be present in the electric circuit (given with the alimentation cable).

Consumption under 12 V: -100 mA without back-lighting
-**130 mA** with back-lighting.

1.3 EMERGENCY POWER: EXTERNAL PACK BATTERIES

Pack batteries **must be connected** on the corresponding entry of the power cable.

Pack provides a power of 9 V that is 6 batteries of 1,5V (standard AA/LR 6).

Consumption under 9 V: - 120 mA without back-lighting
- **180 mA** with back-lighting.

Moreover, if you use a heading repeater, you should take its own consumption into account.

Average autonomy of the pack batteries: 12 hours. It depends on the use or not of back-lighting, as well as on the connection of heading or speed repeaters. Consequently, this endurance can fall to 6 hours under the most unfavourable conditions.

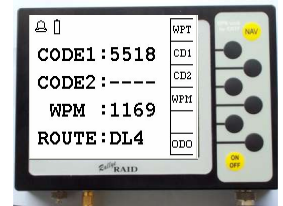


2. GPS UNIK RALLY RAID FUNCTIONING

The GPS is downloaded with a race which includes several roads. Each road is a list of points of passage (waypoints) in order. You can only access to the road with the **4 digits access code** provided by the organization.

- If **code 1** is valid, GPS indicates the direction of the first waypoint.
- If it is necessary to modify one or more waypoints, the organization will provide one or more other codes to be introduced in **code 2**.

They will authorize the modification of one or more waypoints. The ROAD page makes it possible to change the order of passage of the waypoints.



The GPS records the passage at obligatory waypoints (CP virtual or physic) as well as the goings beyond speed in villages, in areas and all races long.

3. BROUGHT INTO SERVICE / EXTINCTION

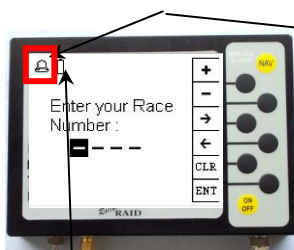
To switch on the GPS: press the ON/OFF key for a short period. You can stop to press the key when you hear a signal.

To switch off the GPS: press the ON/OFF key for 3 seconds.

When you press a key GPS send a short audio signal.

3.1 ICONS

On different screens the following icons can be displayed in top of the screen.








3.1.1 Non-reception satellite:

The bell:  non-reception satellites indicator.

It is normal that this sign appears during a few minutes at the power on. If its presence persists, and that the antenna is connected and not masked, refer you to chapter 5.4.


3.1.2 Connections

Battery: indicator of voltage appears in the form of a bottle being able to have 4 states: empty  , 1/4  , 1/2  , 3/4  or full  .

At the start of a stage it is necessary that the symbol 'full' appears, if not change the battery pack. This indicator **flickers** when power by piles is used. In this case check the main power.

3.1.3 Race number

When you activate the GPS, it is necessary to indicate his race number in this first page to access to following pages.

+: 0 to 9, and A to Z and then 


-: , then Z to A and 9 to 0


→ ← : CLR ENT

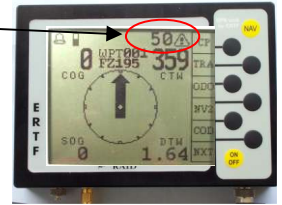
3.1.4 Passage of a waypoint

As you enter in the radius GPS emits an audible signal during 2 S and, in mode « Avant », aims the next waypoint.


3.1.5 Alarm Speed Village


Alarm speed : displayed during the speed control in villages where speed is limited, preceded by the limit speed. Example: 50

When exceeding the authorized speed, only the pictogram  flickers (no speed control value) and a continuous audio signal is transmitted.



3.1.6 Maximal speed alarm

If there is an overall race speed limit and you are on a area without any other limited speed than the maximal one, the GPS display , preceded by value.

Only the symbol  blinks if you exceed this maximal speed allowed.

3.1.7 Anticipation speed limit to come or (or other value)

When your are less than 90 m of a waypoint starting a limited speed area more restrictive than the actual one, the GPS displays the speed limitation to come in inverse video without pictogram, in the screen top right corner.

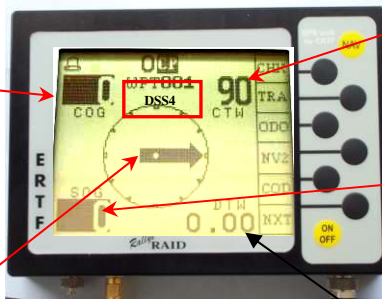
4. MENUS

4.1 PRINCIPAL NAVIGATION SCREEN

This screen appears at the powering and each time you press the NAV key.

4.1.1 COG

COG (cap over ground): course steered by the vehicle when moving. Steered course can be right only when moving at a speed > 6 Km/h.



4.1.2 CTW

CTW (cap to waypoint): indicates the course to follow to reach the waypoint target.

4.1.4 SOG

SOG (Speed over Ground): the vehicle speed in km/h when moving.

4.1.3 Waypoint number target, name of the waypoint

Approximation of the direction to be followed to reach the waypoint target. Direction given is valid only when the vehicle moves. If it is motionless, the arrow turns in a random way. It is fixed in the event of satellite non-reception of position. With the top of the circle, the number of the waypoint target and its name appears.

4.1.5 DTW

DTW (distance to waypoint) expresses the distance, in kilometres, to reach the waypoint target.

4.1.6 WPM

Masked waypoints are waypoints with navigation information (DTW, CTW and arrow) are displayed only when the distance to the masked waypoint is less than a defined value. Ex: 3 km radius. As long as the GPS is out this radius, WPM appears above the COG. The CTW value is displaying in big letters en the screen centre.

4.1.7 WPE

The Eclipse waypoint can be **visible or masked**.

Situation n°1: the waypoint before the WPE has been validated:

When you validate the precedent point, the WPE becomes a visible waypoint with all navigation information (CTW, DTW and arrow), appearing on the screen.

Situation n°2: the waypoint before the WPE is not validated:

In this case, the WPE stays as a masked waypoint. When you are out the demasked radius, the COG value appears in the screen centre with WPE above the CTW.

4.1.8 **NXT** function touch

By pressing the NXT key, from navigation page, you go to the page witch makes possible to:

- manually change the waypoint target
- to visualize which mode of run of the road is selected: AVANT, if no indication, or Go, if AV presents.
- to select the AVANT mode if AV appears (GPS in GOTO mode).

4.1.8.1 Operation in road mode activated (AVANT)

A waypoint is reached when the vehicle is in the radius defined for the waypoint (200 m or 90m). At this time, the GPS switch to the next waypoint (accorded to the road mode), and so on until the last waypoint of the stage.

The road scrolls from first waypoint to the last waypoint of the stage: it is the **road mode AVANT**.

4.1.8.2 Waypoint skip

If a waypoint cannot be reached, or if you do not wish to reach it, it is necessary to indicate to the GPS this choice. While remaining on screen NAV, press **NXT**:



W+: to advance to the following waypoint

W- : to return to the preceding waypoint

Attach more importance to the name of the waypoint than to its number.

It is possible to remain on this screen during navigation, information being reactualized same manner as for the principal screen of navigation. The exit of this screen is done by yellow key NAV.

4.2 SECONDARY NAVIGATION SCREEN

The access to this page is done by key **NV2**.

CTW, SOG, COG and DTW information from the principal navigation screen are on it.

4.3 TRACE SCREEN

The position of the mobile is indicated by a cross

Z+ / Z- : make it possible to modify the value of the vertical scale from (0,5 km to 1 000 km). Scale chosen, materialized by indents on the right and on the left of the screen, goes from the indent more in the bottom of the screen to the indent at the top.

NXT: makes it possible to go to the modification screen of the zone of visualization

MID : centering around vehicle

Visible waypoints are noted by their sequence number, they are connected by a line in road mode. When the mobile comes out of the screen, the trace is automatically centred.

4.4 CODE SCREEN

CODE 1: last code typed to select the road.

CODE 2: last code typed to authorize the modification of one or more waypoints.

CD1 : to enter code 1
CD2 :to enter code 2
WPM WPM

WPM : last releasing code typed to unlock masked waypoints.

ROUTE: name of the road activated by code 1, corresponding in the name of the first waypoint of the road.

4.4.1 Code data entry screen: CD 1, CD 2 or WPM

- + and - : changes the numerical value in grey.
- → and ← : passes to the following or preceding nr.
- CLR: erases the code.
- ENT: validates the typed code.

4.4.2 Code WPM

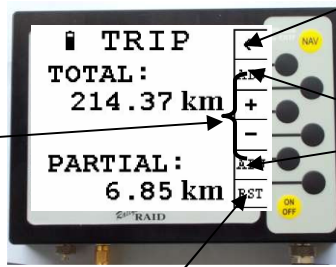
This code turns masked and eclipses waypoints into visible waypoints. This navigation information becomes permanent.

4.5 ODO and OD+ SCREEN

4.5.1 ODO screen

From the page « TRIP », you can:

+ Increment the current digit.
 - Decrement the current digit
Or change directly the TOTAL counter number (by 100 m steps), and only if no counter is in modification mode



RST: Delete distance.

← Select the next digit and back to the first

ADJ : Adjust total distance.

ADJ : Adjust partial distance.

ADJ pushed : the first figure of the meters of the counter (PARTIAL or TOTAL) appears inversed, and it goes to “**modification**” mode. In this case, the odometer function is stopped.

Nb: You can only modify one counter at a time.

Pushed a 2nd time ADJ: exit from the modification mode. The odometer function is activated again. The two odometers are limited to 9 999.99 km.

Important:

- Concerning the PARTIAL counter, the RST key is active even if you have not already pushed ADJ.
- If a counter is being modified, if you push NAV, you put an end to the modification and the associated odometer function starts again.

Remark:

- The precision of the odometers depends on the precision of the GPS (which can be corrupted if it is masked).

4.5.2 OD+ screen

ODO total value

Automatic adjust at each Wpt, message “Adjust Ok”, during 3s for each adjust



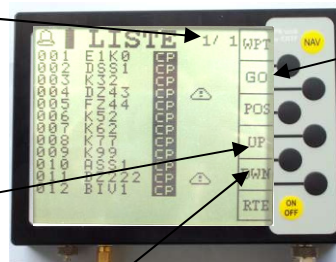
4.6 LIST SCREEN

Access to the list of waypoints downloaded for a road is done from page NAV nxt or POS, key LST. This page visualizes the number of waypoint, its name and eventually the pictograms of representation (⚠ : speed control or CP : “contrôle de passage”).

Number of pages appears, as well as the total number of pages

UP (down): to visualize the page located on top of the present page on the screen

DWN (down): to visualize the page located below the present page



GO: makes you pass in manual mode (GOTO mode). In this operating mode, the GPS does not pass automatically to the next waypoint.

After having selected GO for GOTO, enter the number of the waypoint target with the keys +, -, → et ←.

CAUTION:

- Information will be valid only if a bell does not appear on top of the screen.
- The keys W + and W – on screen NXT remain usable in activated mode GOTO and selectable in NAV nxt (AV visible).
- When entering in the radius of the targeted waypoint, as in mode road activated the GPS emits a long beep, then at the exit of the radius it emits a series of 3 short beeps.
- For the eclipses waypoints, in GOTO mode, they behave like masked waypoints, because there is no more notion of precede waypoint.

4.7 ROUTE SCREEN

From page POS with the key RTE, you access the ROUTE screen.

On this page you visualize and eventually you modify the order of the waypoints are going to be switch to.

In top on the right of the screen: nr of the page appears, as well as the total nr of pages.

Keys: - + 5 and - 5: to scroll the pages by 5 to 5

- **UP and DWN:** to scroll the pages one by one.

- **CHG** (change): to pass in the page of modification of the road.

CAUTION: Select the page you want to modify before using key CHG.

A first keys menu allow you to change the number of the waypoints: +, -, →, ↓ press ENT to validate the changes.

Keys: - **NXT** (next) to pass to the second keys menu:

- **INS:** the insertion of waypoints in front of the selected waypoint

- **SUP:** allows the suppression of the selected waypoint

- **STP:** allows stopping the road with the waypoint preceding the selected waypoint.

After the last waypoint in the road, a line with a number of waypoint with 000 makes it possible to add waypoints at the end of the road.

4.8 WPT SCREEN

Access from pages POS or CODE. You can only look at visible and non masked waypoints. Concerning the others, you need to use a code 2.

This screen allows the modification of the coordinates and the name of the waypoints:

➤ **To select the number of the waypoint** to be visualized by the first screen.

+ and -: modification of the digit in on brightness

→ et ←: make it possible to pass to the following digit.

Once the number of the waypoint is chosen, press ENT to validate and post the coordinates.

➤ **To modify the waypoint coordinates:** press once again ENT: the first digit of the latitude appears in brightness. Keys +, -, →, ← and ↓ make it possible to modify latitude and longitude, as well as the name of the waypoint.

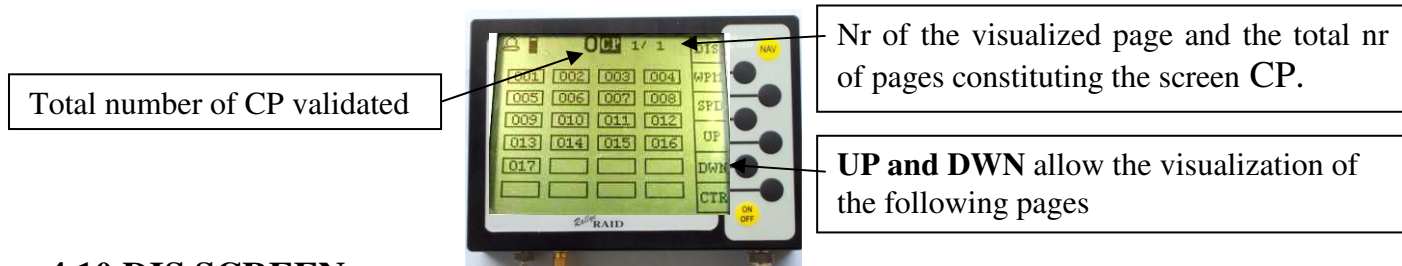
➤ **To validate the changes:** press ENT will.

Page CHK 4.9.0: makes it possible the control of followed race (race n°, GPS n°)

4.9 CP SCREEN

Informs you on control round and waypoints:

- to be passed: whites boxes with number of the corresponding waypoint
- validated: greyed boxed with number of the corresponding waypoint.



4.10 DIS SCREEN

Access from CP screen, this screen displays the GPS reception lost.

4.11 WPM SCREEN

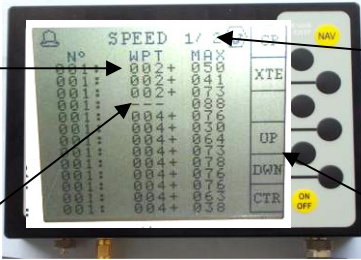
Access from CP screen. Informs you on the WPM which were unlocked by the WPM code. If **box white** with the waypoint corresponding number, it was not unlocked.

If **box greyed** with the waypoint corresponding number, it was unlocked.

On the screen top center, appears how many WPM are counted as unlocked by the WPM code.

4.12 SPEED SCREEN

Access from CP screen.



Number of the waypoint concerned

Number of over speed, maximum speed reached at the time of the over speed in villages or out of villages when speed is limited.

Number of the visualized page and the total number of pages constituting the screen CP.

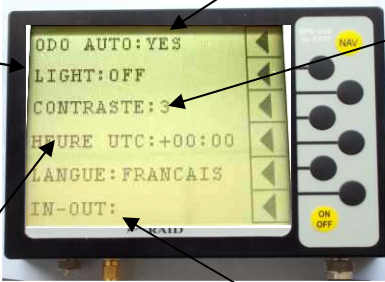
UP et DWN: allow the visualization of the following pages.

4.13 CTR SCREEN

Control of over speeds total number. Registers how many times the speed has been exceeded. Allow the access to CP, WPM, and SPD screen.

5. CONFIGURATION SCREEN

Access by NV2, then SET.



Desactivation of odometer automatic adjust.

5.1 LIGHT
Modification of the characteristics of the light: lit (ON), then 75 %, 50 %, 25 % and extinct (OFF).

5.2 CONTRASTE
To modify the contrast from 1 to 5. The lower the outside temperature will be, the closer to the maximum value of 5 the contrast will have to be. Conversely, it will be necessary to reach the minimal value 1 when the outside temperature becomes high.

5.3 HEURE UTC
It is possible to apply a time shift thanks to this function. After press on this key, the time shift can be applied positively or negatively. Keys +, -, → and ← change the value of the digit on brightness.

IN-OUT RECEPTION SATELLITE: to check the reception satellite quality.

5.4 IN-OUT RECEPTION SATELLITE

Makes it possible to visualize the quality of the satellites reception.

In the top of the screen the state of the antenna supply appears:

- **OK**: correct operation
- **CO**: (Open circuit) disconnected antenna, cut cable or deteriorated antenna.
- **CC**: (Short Circuit) the faulty antenna or the cable caused over-intensity. The supply circuit tripped, the antenna is not fed anymore. It is necessary to switch off the GPS, to repair the antenna or its cable and to switch on.

Left column: **Name** and **number** of received satellites.

Column of the centre: Value of the SNR: indicates for each satellite of **the quality of the reception**, which is related on system GPS but also on the quality of the antenna and its localization. For an optimal reception, the antenna must be placed in order to be in direct sight (without obstacle) of any point of the sky.

Third column (AZM: azimuth): indicates the **rise for each satellite compared to the horizon**. For the satellites having a weak rise (near to the horizon) it is normal that the level is low.

A minimum of 3 completely received satellites (line whose information SAT, SNR, AZM and ELEV is present) is necessary to obtain the information of position.
