ERTF

USER MANUAL

UNIK4 RALLY RAID GPS
AUTO – TRUCK



SUMMARY

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- Trip + & Trip –
- W + & W –
- F1 & F2
- Trip Mod

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08. Shutdown P35

09. Special Stage Display P35

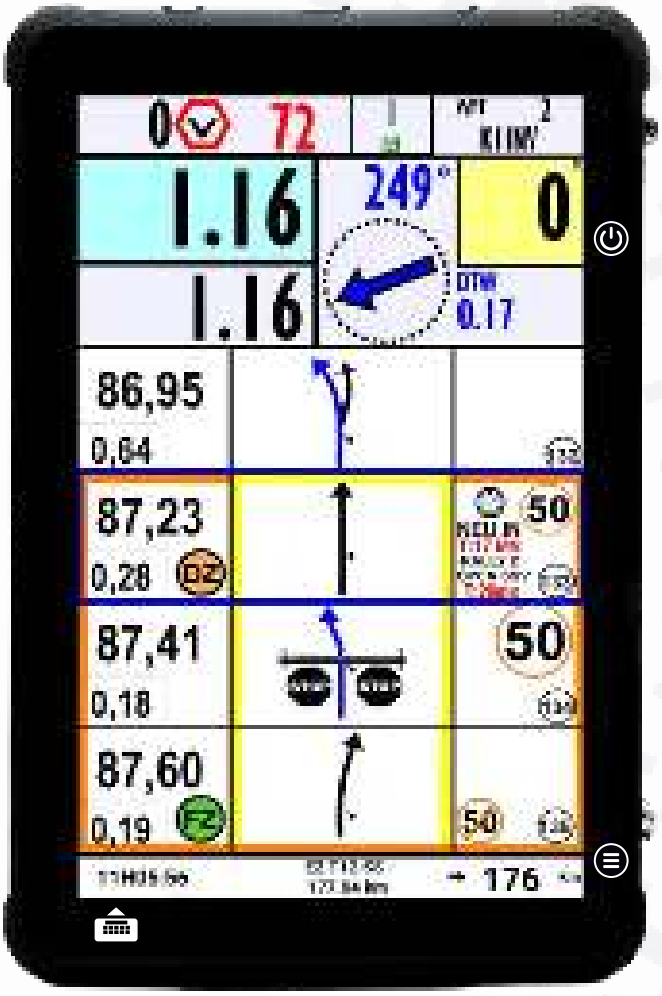
10. Problem Resolution P36

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01. UNIK4 PRESENTATION

ALL-IN-ONE DEVICE

The Unik4 is a **complete device** combining racing control and navigation functions with an **electronic roadbook,** alongside the **Sentinel system** for collision prevention and overtaking management.



01. UNIK4 PRESENTATION

COLLISION PREVENTION

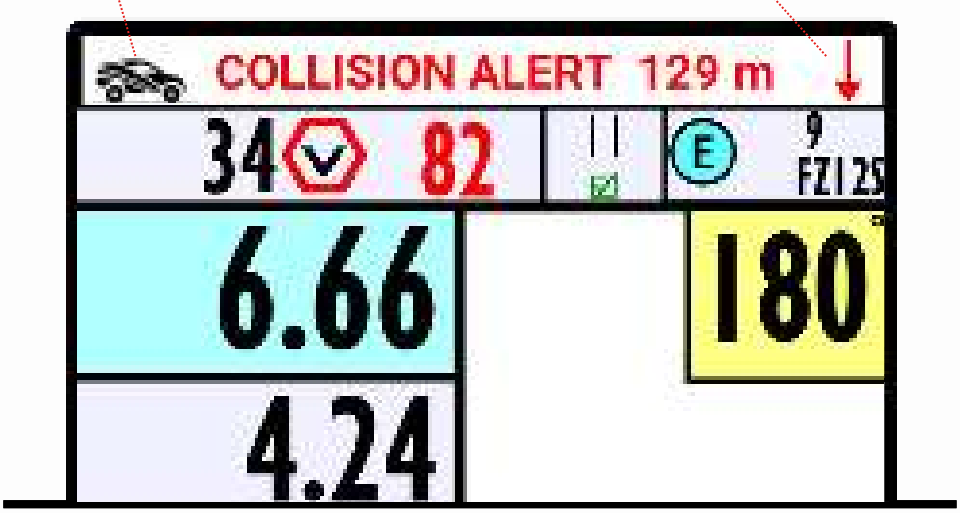
Enhanced Collision Alert Function provides an **improved awareness of potential collision risks** from any direction. It uses the radio signal emitted by each vehicle to analyze the distance between vehicles, their speed, the estimated time to collision, and the closing speed, in order to determine whether a collision risk is present. If a collision risk is detected, the buzzer emits **an alert sound and a message is displayed** on the Unik4 screen.

The Collision Alert is deactivated during **road sections, transfer zones, neutralizations, controlled speed zones**, and between the **last WPT and the ASS.** It may also be deactivated in specific situations, such as during prologues held in confined areas.

EXAMPLE OF IN-RACE SCREEN

Type of vehicle involved in a detected collision risk

Indicates the current direction of the approaching vehicle



02. UNIK4 PHYSICAL BUTTONS

POWER BUTTON

Short press: sleep mode / wake-up

Long press: displays the full device shutdown menu.

SETTINGS

Short press: access to the Unik4 settings and configuration menu.



INFORMATION

The other physical buttons and connection ports on the device are intended **exclusively for ERTF technicians** for **programming, configuration,** and **maintenance operations.**

03. UNIK4 CONNECTIONS

WIRING & CONNECTION OVERVIEW

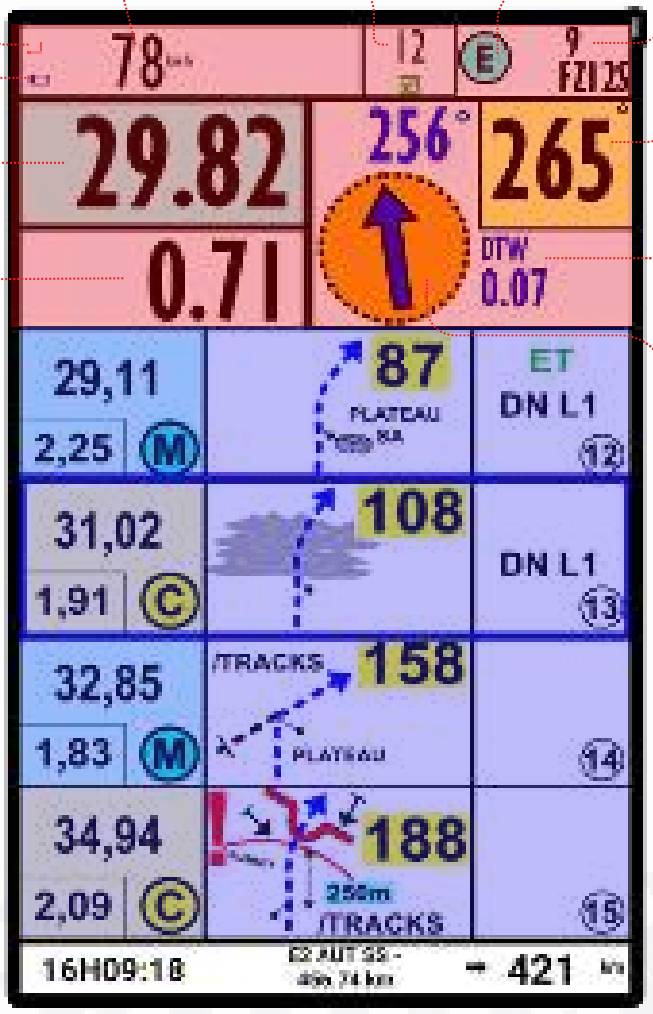


INFORMATION

All equipment shown here, along with **detailed installation and connection instructions** for the Unik4, are available on our website **at Ertf.com.**

04. UNIK4 SCREENS

GENERAL OVERVIEW



Satellite Connection

Speed

Number of validated WPT

WPT Type

Target WPT Name and Number

Power Icon

COG : Heading

Total Odo

DTW : Distance To Target WPT

Partial Odo

CTW : Heading To Target WPT. The circle will turn orange to confirm WPT validation.

ZONE 1
Données GPS

ZONE 2
Roadbook

ZONE 3
Infos. Générales

4.1 POWER & SATELLITE ICONS

EXAMPLE OF IN-RACE SCREEN



NO ICON

No issues detected. Satellite reception is good with a **strong signal lock.**

NO ICON

No issues detected. Unik4 is powered by the vehicle battery.

FIXED BELL ICON

Unik4 is unable to establish a satellite connection. Installation **to be checked.**

BATTERY ICON

Battery **low but charging**. Unik4 is powered by the vehicle battery.

FLASHING BELL ICON

Satellite reception is via the **internal antenna**. Installation **to be checked.**

PLUG ICON

The Unik4 is powered by its **internal battery.** Installation **to be checked.**

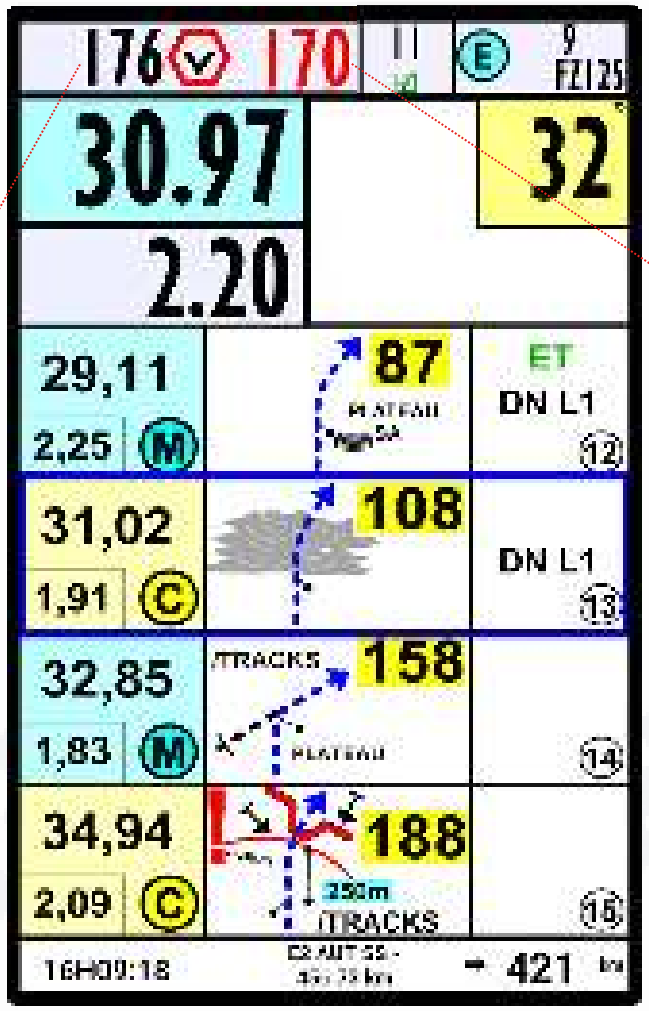
4.2 SPEED LIMITS

CATEGORY-SPECIFIC SPEED LIMITS

The applicable speed limits are configured in accordance with **the race regulations** and the **vehicle's entered category**. The GPS automatically displays the maximum permitted speed, and when an overspeed is detected, an **audible alert may be triggered to warn the crew.**

EXAMPLE OF IN-RACE SCREEN

Current Speed
Speed measured by the Unik4



Speed Limit:
Maximum speed based on vehicle category

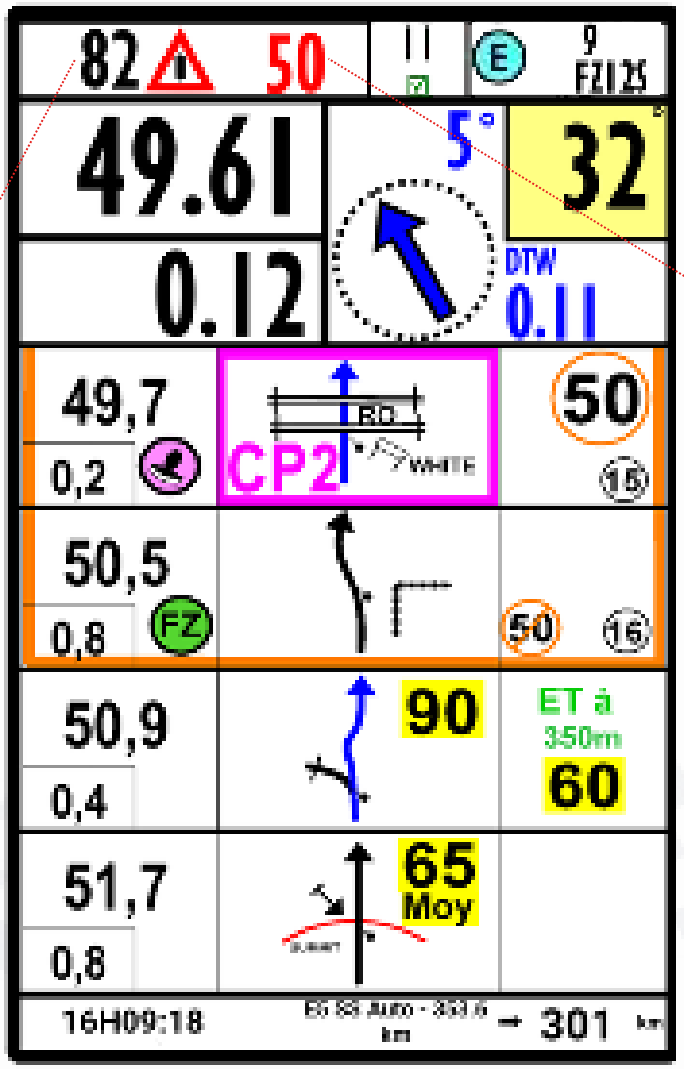
4.2 SPEED LIMITS

ZONE-SPECIFIC SPEED LIMITS

In addition to the speed limits defined by vehicle category, the course may include specific sections with **special speed limits.** These are automatically **managed and displayed by the Unik4.**

EXAMPLE OF IN-RACE SCREEN

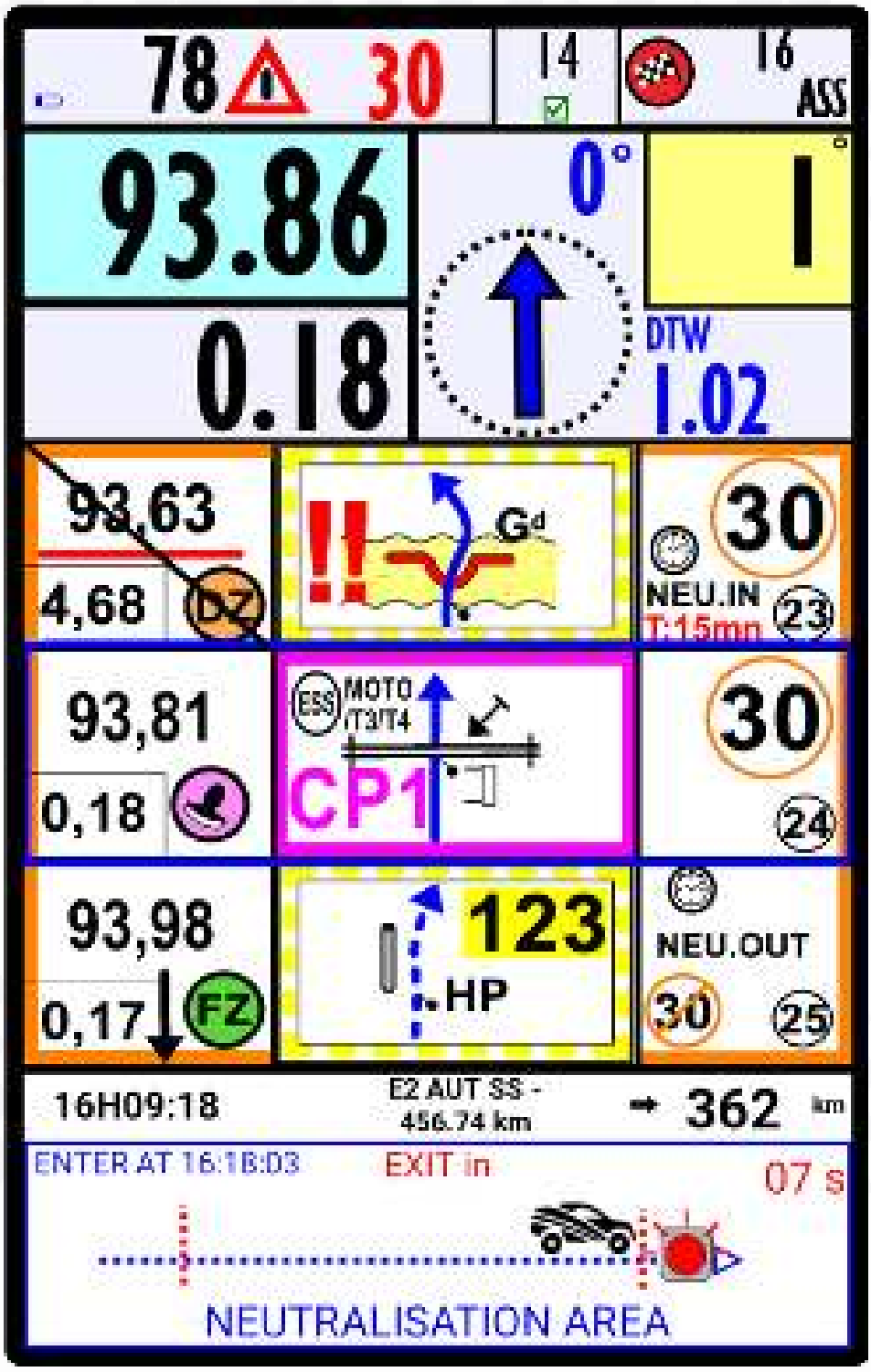
Current Speed
Speed measured by the Unik4



Speed Limit:
Maximum speed in this zone.

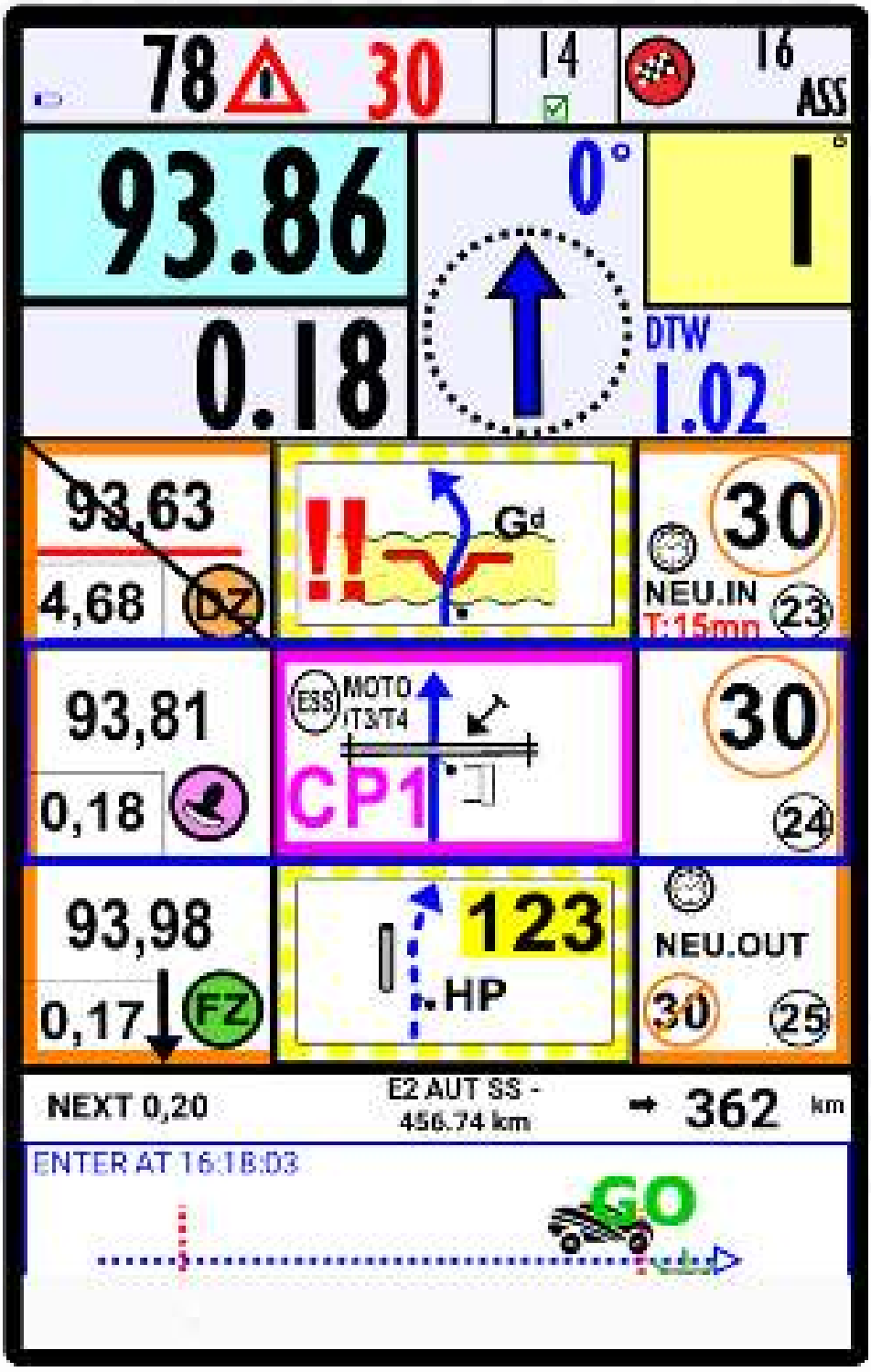
4.3 NEUTRALISED ZONES

EXAMPLE SCREEN AT ZONE ENTRY



4.3 NEUTRALISED ZONES

EXAMPLE SCREEN AT ZONE EXIT



05. UNIK4 REMOTE CONTROL

ESC — Return to Standard Situation

OK — Choice Confirmation

STN — Overtake Request



F — Functions to Program

TRIP MOD — Odo Management

TRIP RST — Partial Reset

TRIP + — Odo + Total

TRIP – — Odo – Total

Cross Out

Note +

Note –

W– — Waypoint Navigation

W+ — Waypoint Navigation

Access to GPS Menus

5.1 SENTINEL FUNCTION

OVERTAKES

In case of overtaking, press and **hold (> 2 s)** the yellow button or the STN key to **send an request** to the vehicle ahead.
The request is valid up to **250 m** when the speed difference is below 20 km/h, and up to **400 m** when the speed difference is above 20 km/h. Beyond **400 m,** the overtaking request is not taken into account.

KEYS



Sending an **overtake request** or a **request acknowledgment**

When another competitor requests an overtake, the Unik4 triggers an **audible alert** and **displays a top-screen banner** showing the vehicle type and distance.
To acknowledge the request, briefly press the yellow button **(< 1 s)** or the STN key on the remote control. If no manual confirmation is made, an acknowledgment is automatically sent **after 6 seconds.**

CRASH ALERT

In the event of a breakdown or accident in a sensitive area, the red **"Alarm"** button sends a signal to competitors within a **250 m radius**, depending on the terrain configuration. The alert is cancelled by **pressing the button again.**

Upon entering an area where an alert has been issued, the Unik4 triggers **an audible warning** and **displays a banner** showing the **vehicle type** in difficulty **and its distance.**

5.2 NOTE + & NOTE -

1 **SHORT PRESS**

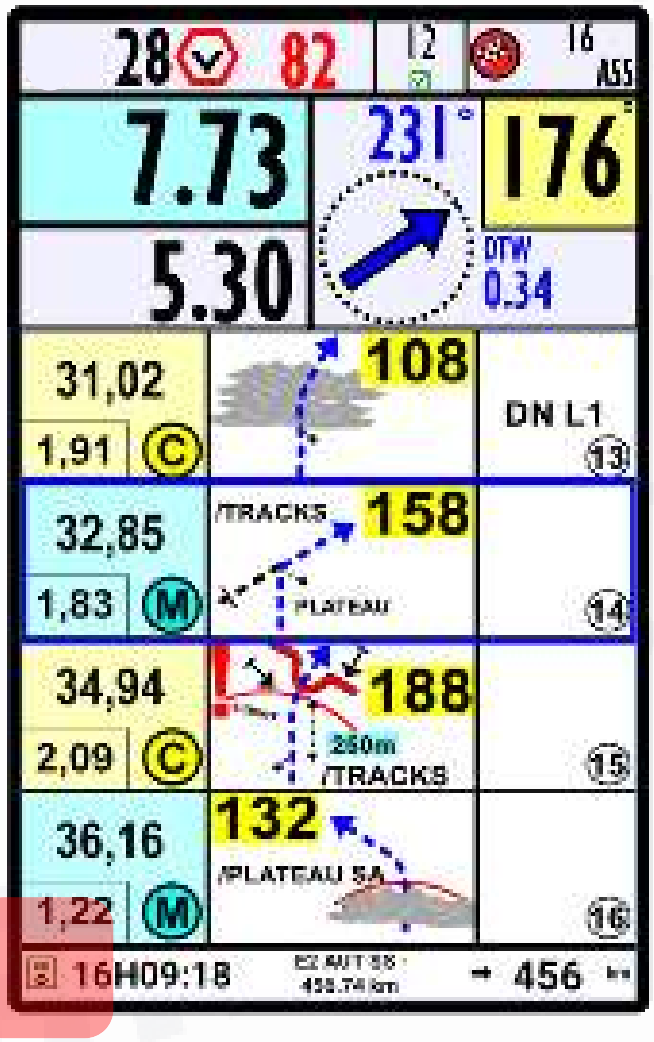
A short press on these buttons moves the Roadbook forward or backward by one line.

2 **LONG PRESS**

A long press enables much **faster scrolling** through the Roadbook, both **forward and backward.**

INFORMATION

In fast forward mode, **an icon appears.** As long as it remains visible, it is possible to return to the start line by long-pressing the **ESC** key.
After 1 minute, in standby mode or during any other action, the icon **disappears** and returning to the start line is **no longer possible.**



KEYS

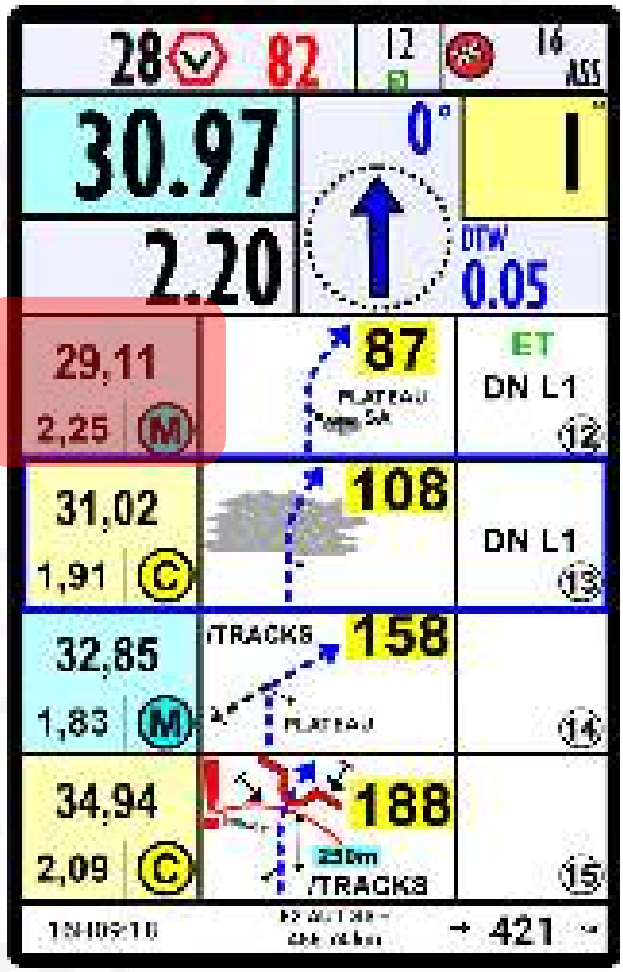
NOTE -
Navigate the roadbook **upwards**

NOTE +
Navigate the roadbook **downwards**

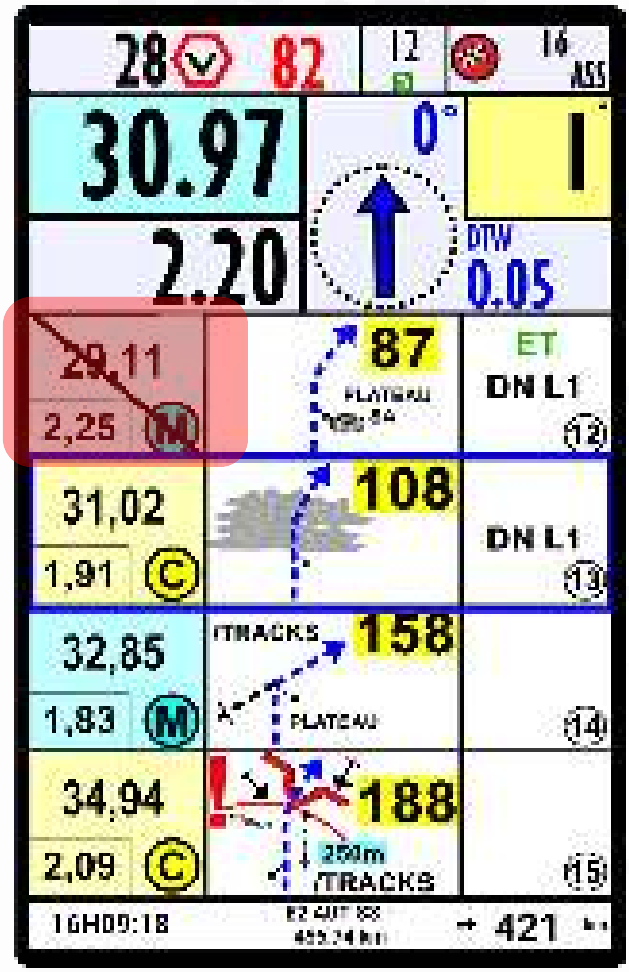
5.3 CROSS OUT

NO CROSSED OUT BOX ON THE PAGE

BEFORE CROSSING OUT



AFTER CROSSING OUT



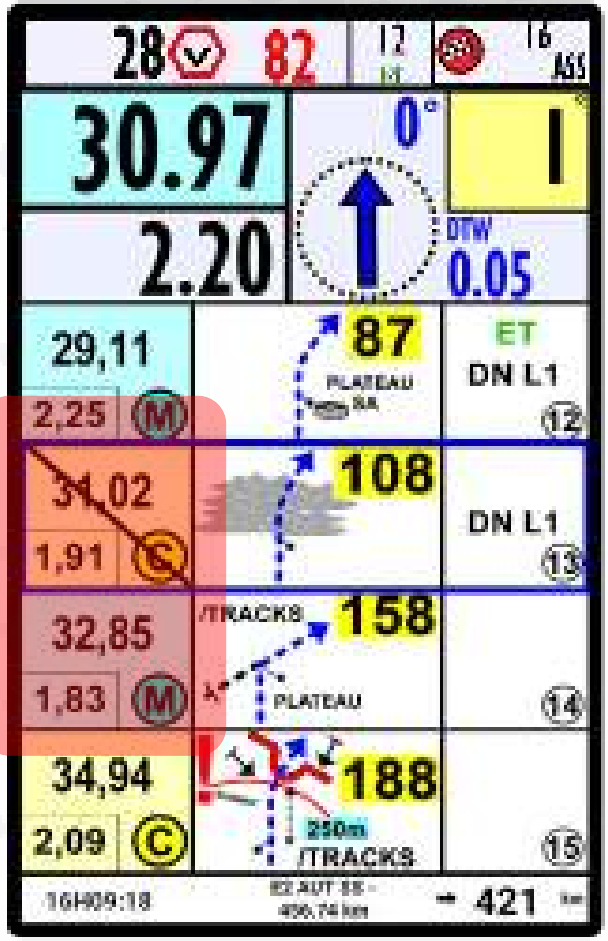
KEYS

Starting from the top of the roadbook, **the last uncrossed box is then crossed out.**

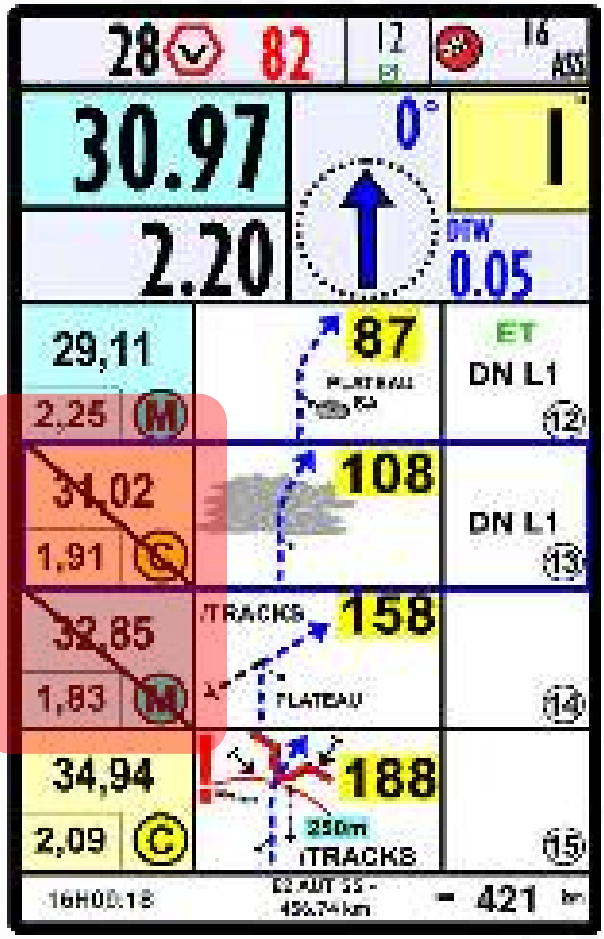
5.3 CROSS OUT

CROSSED OUT BOX ALREADY ON THE PAGE

BEFORE CROSSING OUT



AFTER CROSSING OUT



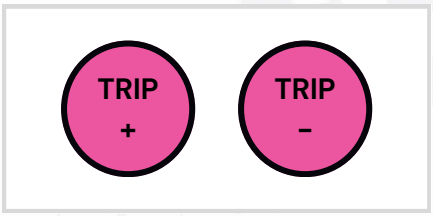
1 **SHORT PRESS**
From the top of the roadbook, cross out the last **uncrossed box**, without going beyond an already crossed-out box.

2 **LONG PRESS**
Uncross the last crossed-out box displayed on the screen.

3 **EXTENDED PRESS**
Uncross all the boxes displayed on the screen.

5.4 TRIP + & TRIP –

KEYS

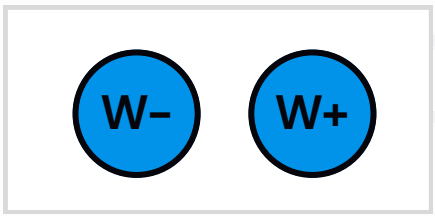


A **short press increases** or **decreases the ODO** according to the value defined in **'Settings'.**
A **long press** increases or decreases the ODO **more quickly**.

5.5 WAYPOINT + & WAYPOINT –

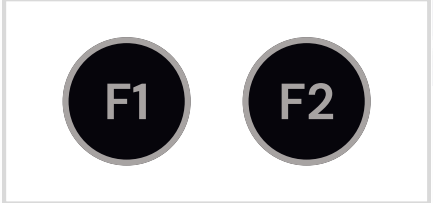
KEYS

A s**hort press** allows you to move **forward** or **backward** through waypoint numbers.
A **long press** enables **faster navigation.**



5.6 F1 & F2

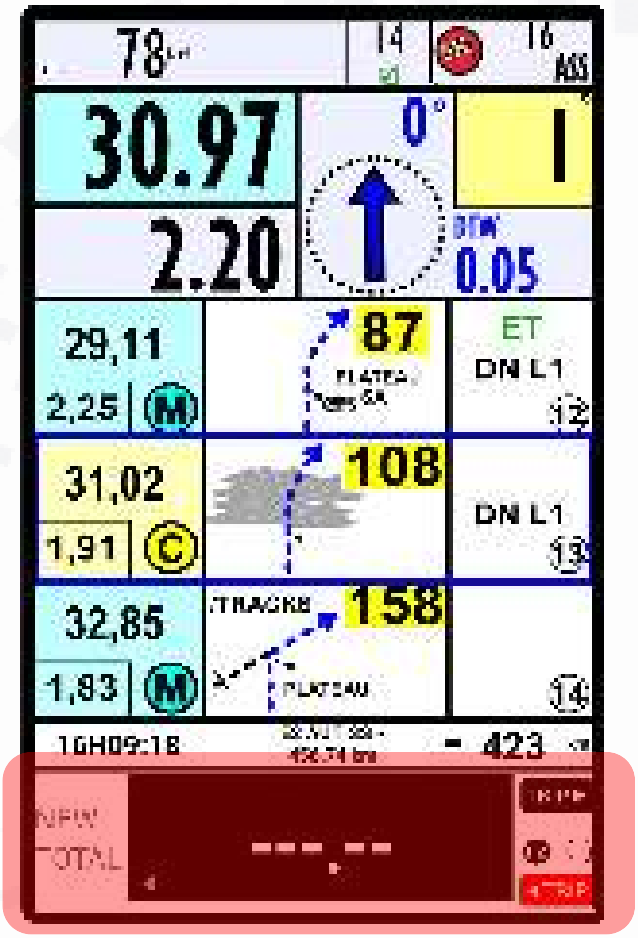
KEYS



These are **programmable function** keys. At present, only F2 is assigned to the **TRIP MODE** function.

5.7 TRIP MOD

EXAMPLE OF IN-RACE SCREEN



INFORMATION

When **TRIP MODE** is activated, the remote keypad switches to a **numeric keypad,** allowing a numerical value to be entered for the ODO.

REMOTE CONTROL FUNCTIONS

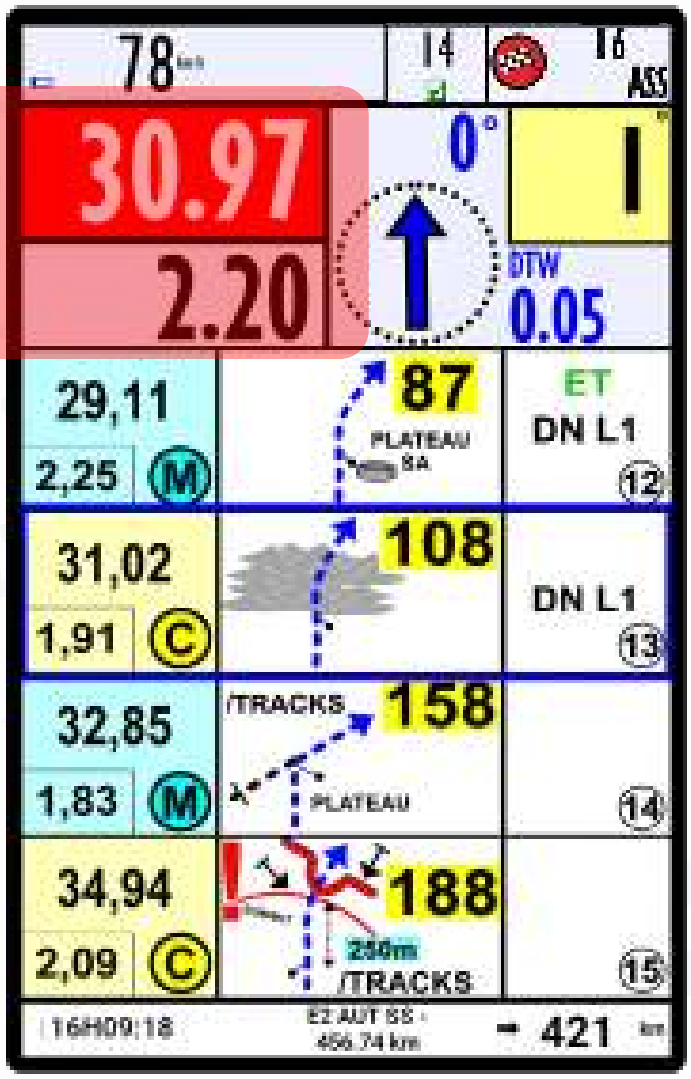
TRIP MOD	OK	F2
Switches the device to **"Trip Mode".**	**XX.XX then OK** Enter the total odometer value (X) and exit the menu**.**	Switches the device to **"Countdown Mode".**

5.7 TRIP MOD

COUNTDOWN MODE

The Countdown mode is accessible by pressing the F2 key from the **TRIP MODE** page.
A second press on F2 exits countdown mode.

EXAMPLE OF IN-RACE SCREEN



INFORMATION

Once Countdown mode is activated, the **total ODO** is displayed in **white on a red background.** Upon exiting the mode, the display **returns to normal.**

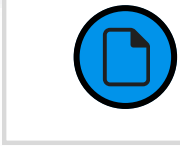
06. UNIK4 MENUS

1 **ONE PRESS**
First press opens the **CP page**

2 **TWO PRESSES**
Second press opens the **Track page.**

3 **THREE PRESSES**
Third press opens the **Menu list.**

KEYS



Access to **Unik4 Menus**

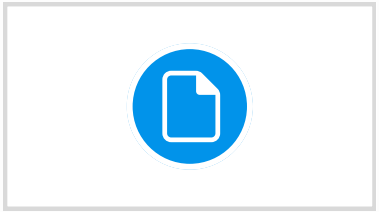
INFORMATION

To navigate within a page, the remote control must be assigned to it. Press OK to assign it.
The remote is then assigned to the selected window, which turns green.
Only two roadbook lines remain visible.

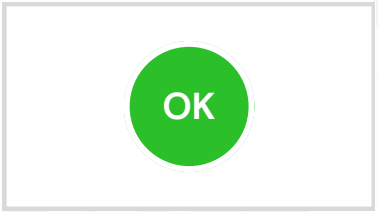
REMOTE CONTROL FUNCTIONS



Close the window or return to the **standard Roadbook** view.



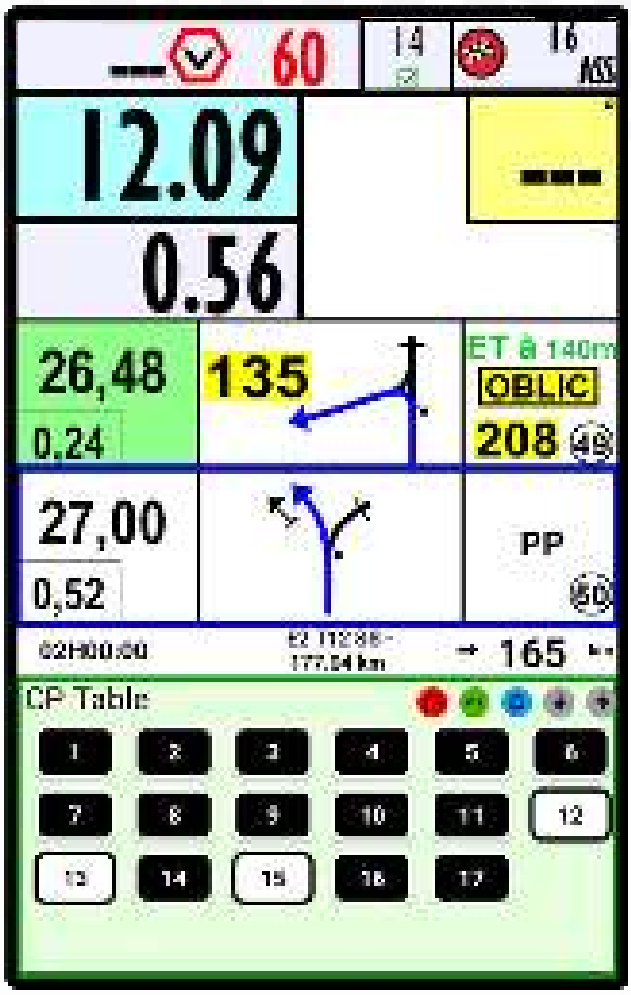
Deselect the window and go to the **next window.**



Select a window. **Assigns or Unassigns** the remote control.

6.1 “CP TABLE” MENU

EXAMPLE OF IN-RACE SCREEN



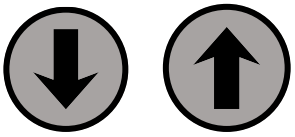
REMOTE CONTROL FUNCTIONS



Switch to the **“Trace”** Screen. The remote control is reassigned to the RoadBook.



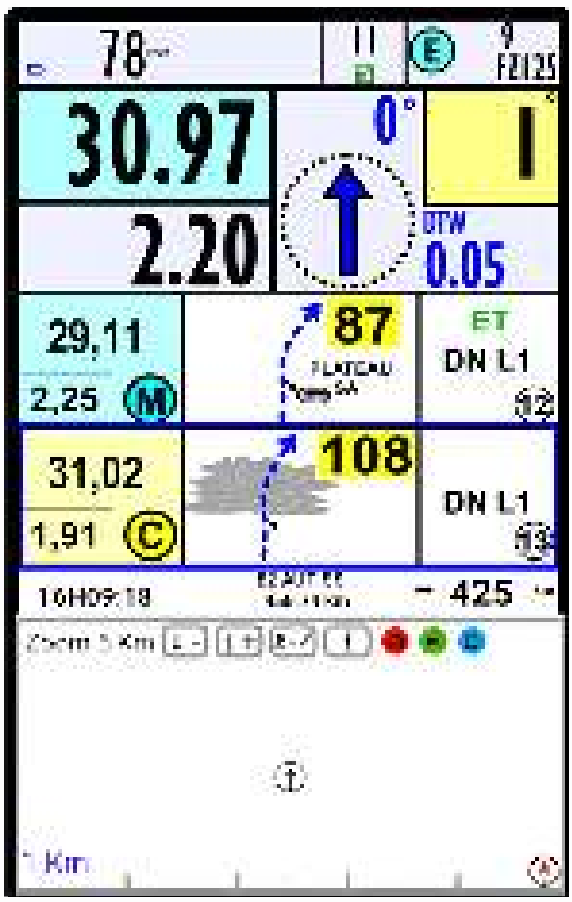
Select a window. **Assigns or Unassigns** the remote control.

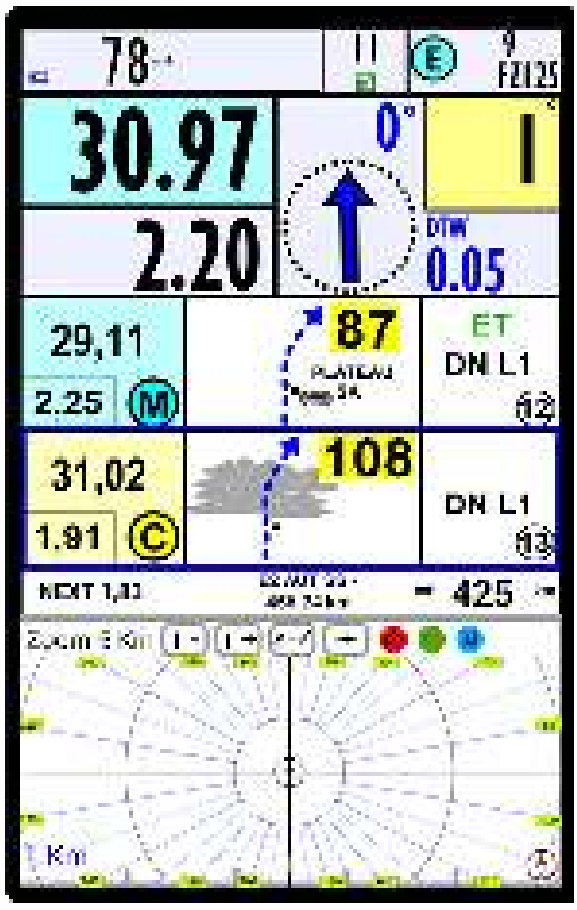


Allows **navigation** within the table.

6.2 "TRACE" MENU

EXAMPLE OF IN-RACE SCREEN





REMOTE CONTROL FUNCTIONS

Switch to the **"List"** Screen. The remote control is reassigned to the RoadBook.

Recenter the Trace

Allows **navigation** within the table.

6.2 MENU “TRACE”

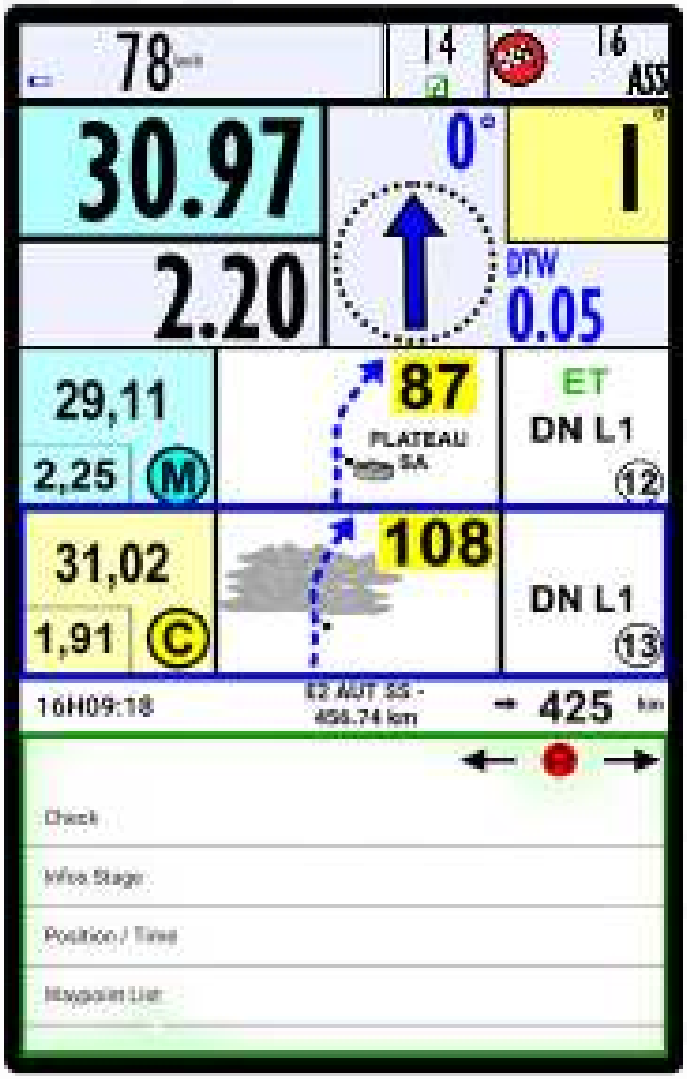
MENU “TRACE” EN MULTISCREEN

For an crew using two Unik4 devices configured in **Multi-Screen** (*see page 33*), pressing the F2 key from the “**Trace**” menu allows the trace to be **displayed across the entire Roadbook area of the screen.** Only the GPS information remains unchanged at the top of the screen.

EXEMPLE ÉCRAN EN COURSE



6.3 "LIST" MENU



INFORMATIONS

This page is the last screen of the main menus.
It provides access to all Unik4 submenus : "**Check**" "**Infos Stage**", "**Position & Time**" and "**Waypoint List**"

REMOTE CONTROL FUNCTIONS

Exit and **return** to the Roadbook.

Displays the **screen selected** from the drop-down list.

Allows **navigation** within the table.

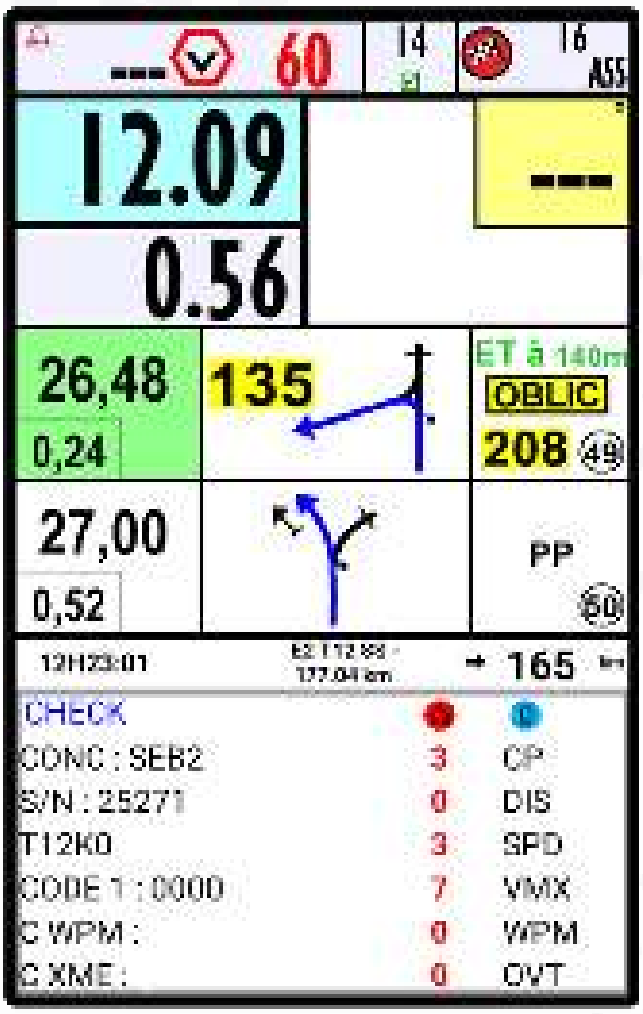
6.3.1 "CHECK" SUBMENU

INFORMATION

First submenu of the List page. This page displays a set of information:

- **CP :** Number of missed waypoints
- **SPD :** Number of DZ/FZ speed violations
- **VMX :** Number of category speed violations
- **OVT :** Number of recorded overtaking refusals

The **DIS** and **WPM** lines are intended for ERTF technicians.



REMOTE CONTROL FUNCTIONS



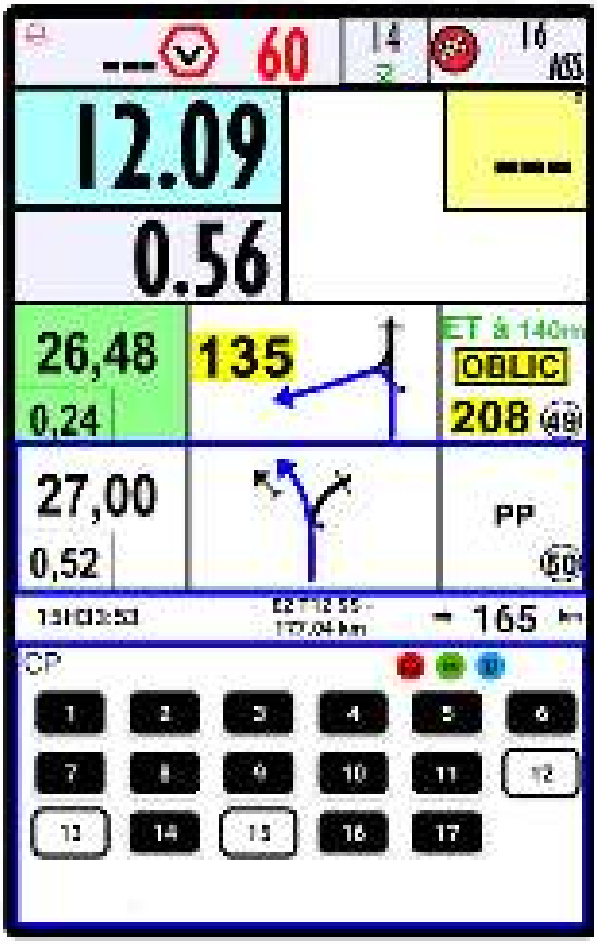
Unselect the window and go to the **next page.**



Exit and **return** to the Roadbook.

6.3.1 SOUS-MENU “CHECK”

“CP” SCREEN



INFORMATION

This screen displays the **list of CP for the stage** and enables real-time tracking of their validation status. **Validated CP** are shown in **black**, while **unvalidated or missed CP** are shown in **white**.

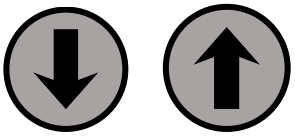
REMOTE CONTROL FUNCTIONS



Unselect the window and go to the **next page.**



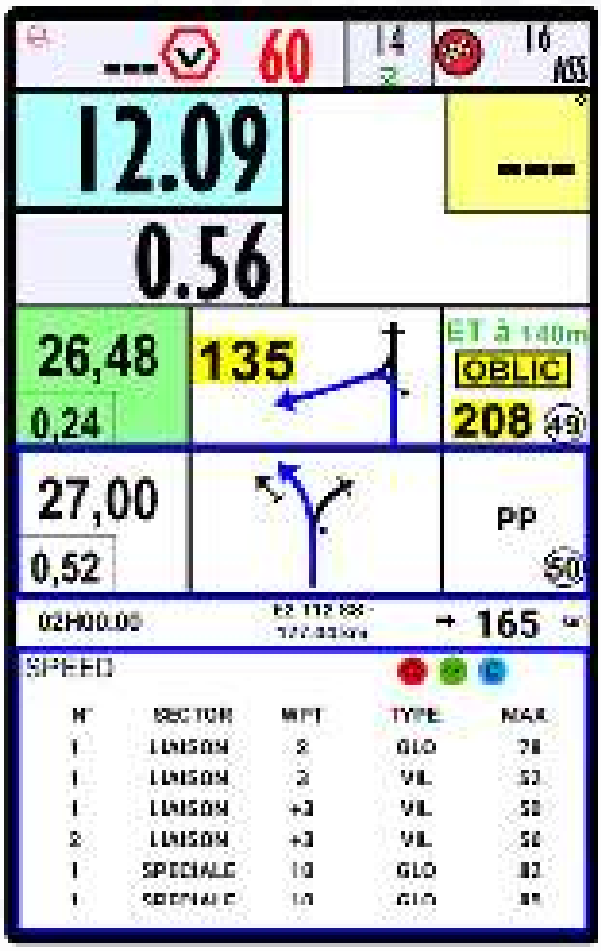
Select a window. **Assigns/Unassigns** the remote control.



Allows **navigation** within the page.

6.3.1 SOUS-MENU “CHECK”

“SPEED” SCREEN



INFORMATION

This screen displays the details of the different **speed violations** and infringements of Neutralisation and Transit times recorded by the device during the stage.

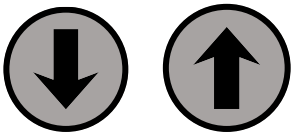
REMOTE CONTROL FUNCTIONS



Unselect the window and go to the **next page.**



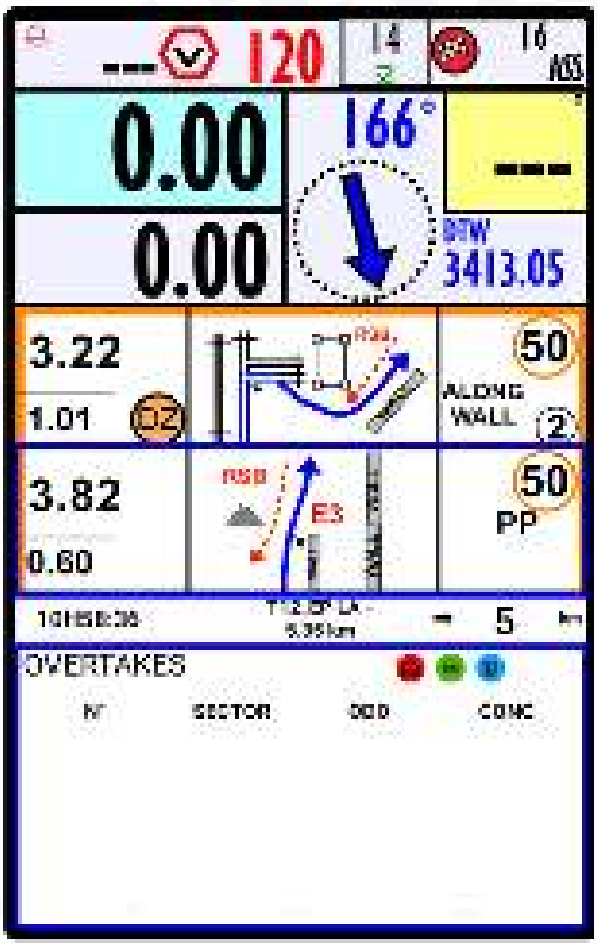
Select a window. **Assigns/Unassigns** the remote control.



Allows **navigation** within the page.

6.3.1 SOUS-MENU “CHECK”

“OVERTAKES” SCREEN



INFORMATION

This screen allows the user to view the list of **overtaking requests received but refused** by the crew during the stage.

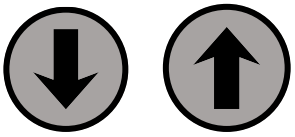
REMOTE CONTROL FUNCTIONS



Unselect the window and go to the **next page.**



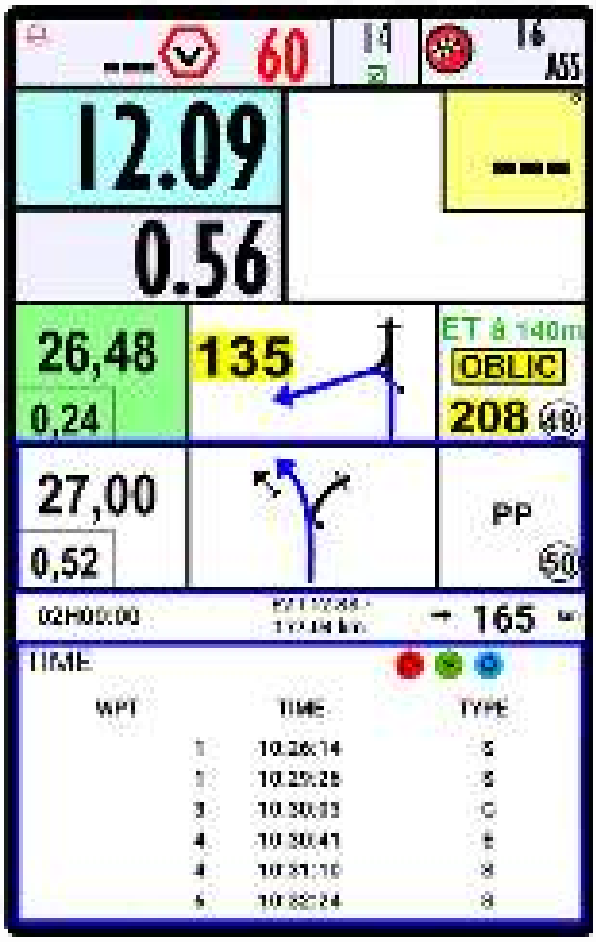
Select a window. **Assigns/Unassigns** the remote control.



Allows **navigation** within the page.

6.3.1 SOUS-MENU “CHECK”

“TIME” SCREEN



INFORMATION

This screen shows the history of **precise passing times** at **each waypoint** along the route.

REMOTE CONTROL FUNCTIONS

Unselect the window and go to the **next page.**

Select a window. **Assigns/Unassigns** the remote control.

Allows **navigation** within the page.

6.3.2 SUBMENU “INFOS STAGE”

EXAMPLE OF IN-RACE SCREEN



INFORMATION

The “Stage Info” screen provides a **summary** of the main information for the **current stage.**

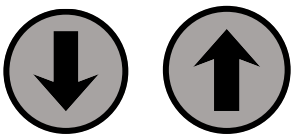
REMOTE CONTROL FUNCTIONS



Return to the Roadbook with the “CP” page displayed.



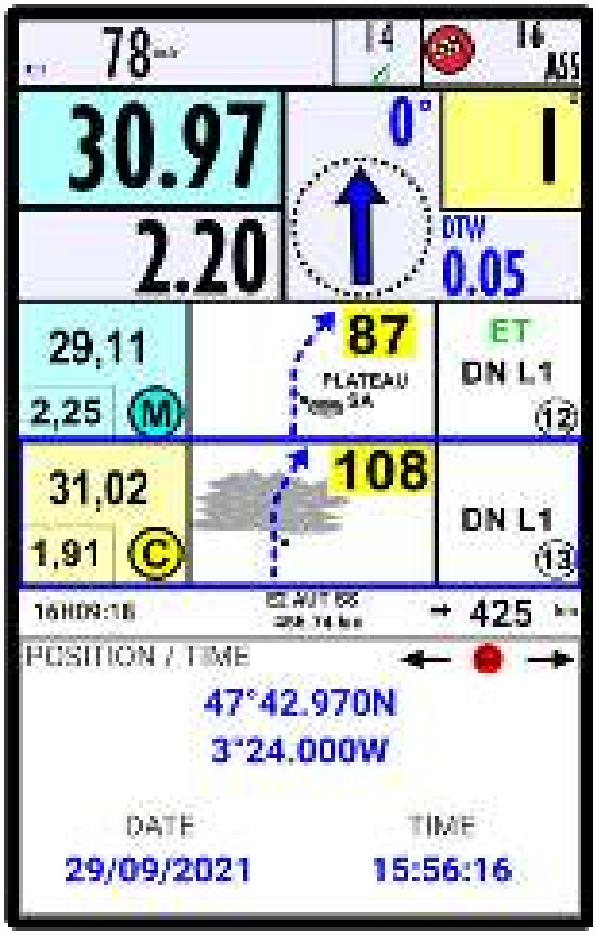
Select a window. **Assigns/Unassigns** the remote control.



Allows **navigation** within the page.

6.3.3 "POSITION/TIME" SUBMENU

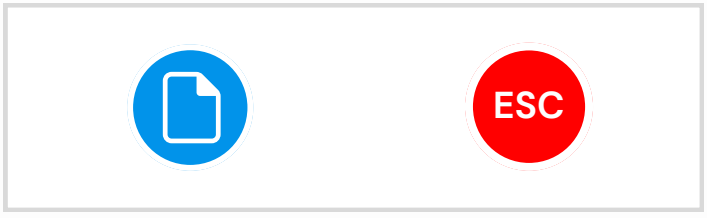
EXAMPLE OF IN-RACE SCREEN



INFORMATION

This screen displays the device's real-time GPS position in **geographic coordinates**, along with the **local date and time.**

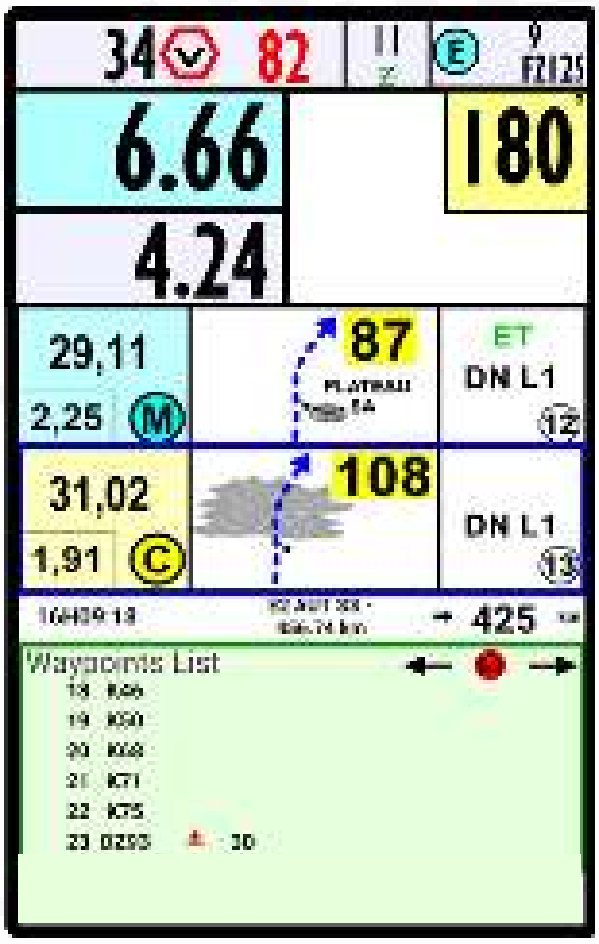
REMOTE CONTROL FUNCTIONS



Both buttons exit the page and return to **the Standard Roadbook.**

6.3.4 “WP LIST” SUBMENU

EXAMPLE OF IN-RACE SCREEN



INFORMATION

This screen displays **all waypoints** for the current stage, providing a **complete overview** of the navigation route structure.

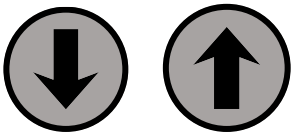
REMOTE CONTROL FUNCTIONS



Unselect the window and go to the **next page.**



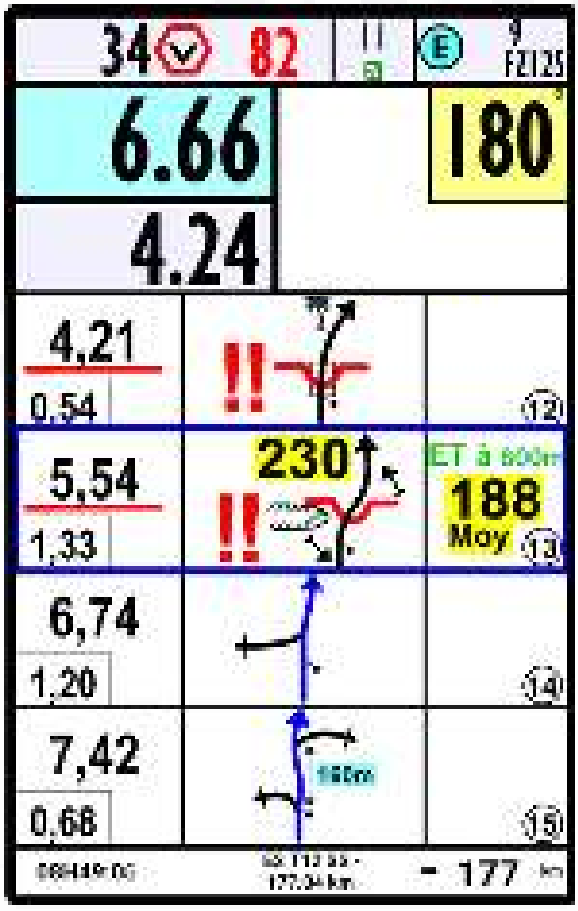
Select a window. **Assigns/Unassigns** the remote control.

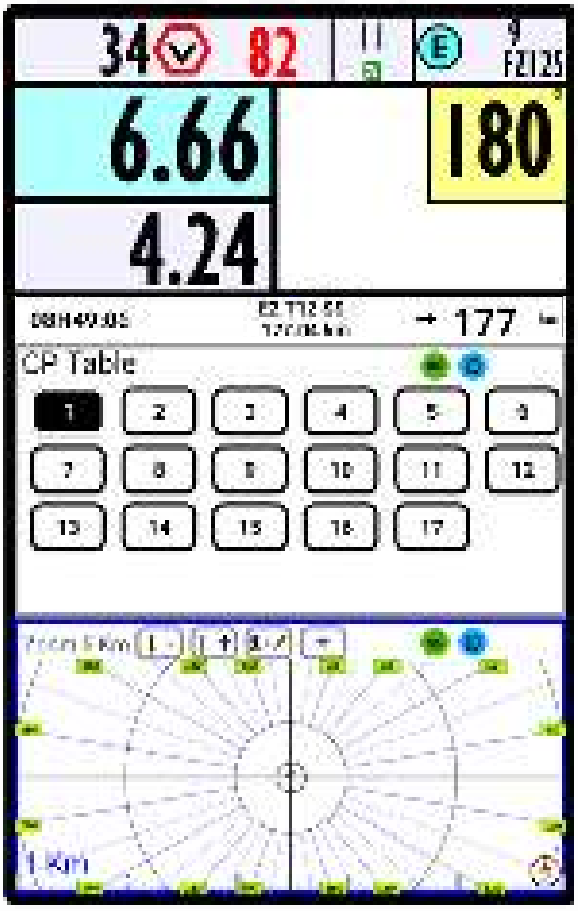


Allows **navigation** within the page.

07. SECONDARY SCREEN

EXAMPLE OF IN-RACE SCREENS





MULTI-SCREEN NAVIGATION

If the vehicle is equipped with two GPS units, **Multi-Screen** mode can be activated in the main Unik4 settings to display multiple windows simultaneously. The layout is **fully customisable** according to the crew's preferences. The recommended setup is to **display GPS information on the main unit** and the **electronic Roadbook on the secondary unit.**

To interact with a window, the remote control must first **be assigned to it.** Use the arrow keys to select the window, then confirm with **OK**. The selected window turns green, indicating successful assignment.

08. SHUTDOWN OF THE UNIK4

END-OF-STAGE SHUTDOWN

Upon arrival at the bivouac, the Unik4 should be **fully powered off** to preserve battery life and ensure a full restart before the next stage.

To power off the device, use the button located **on the right side** of the Unik4. Press and hold it for a few seconds until the shutdown screen is displayed, then **confirm** the shutdown.

09. SPECIAL STAGE DISPLAY

PARTIAL ROADBOOK DISPLAY

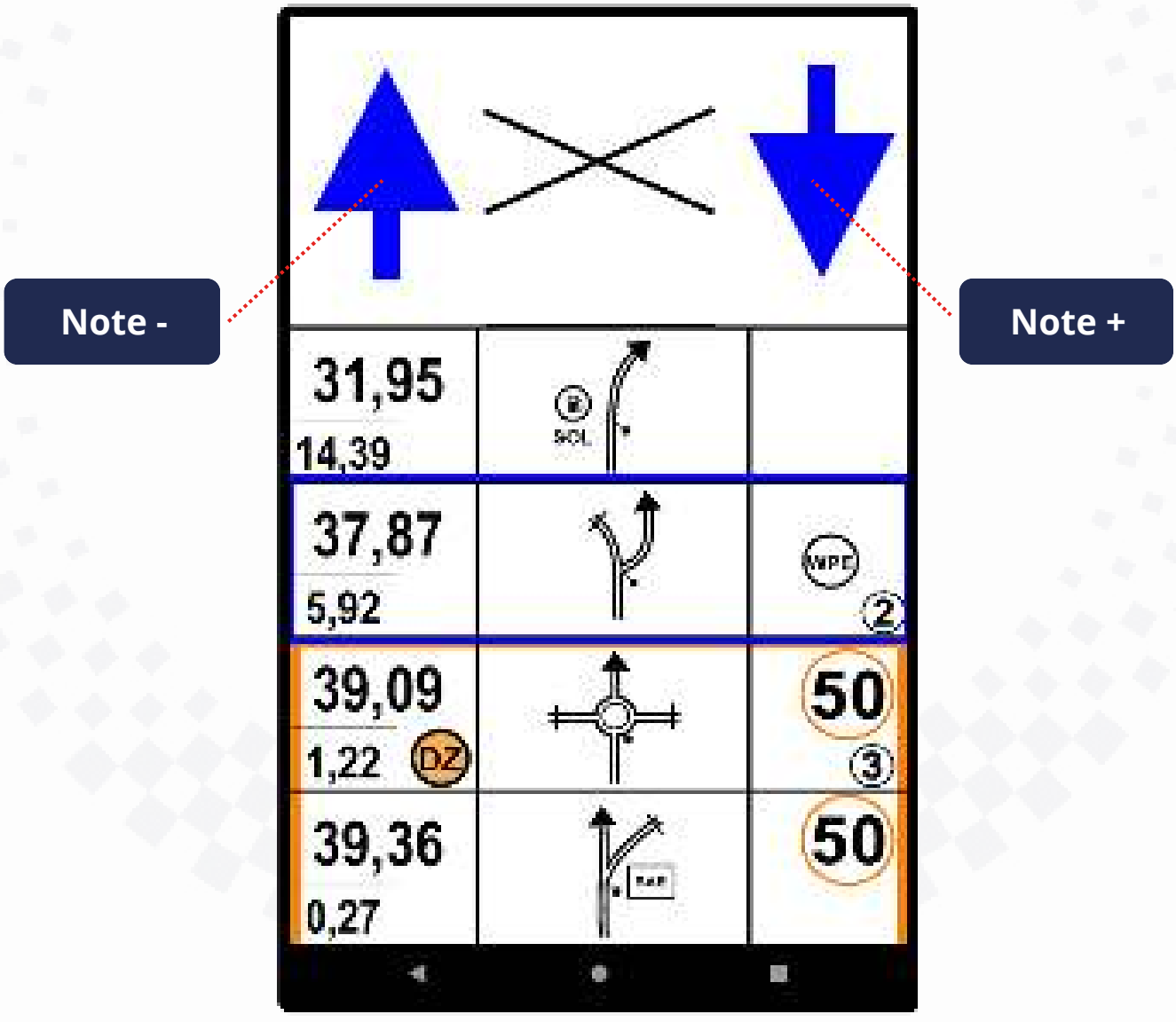
At the start of the stage, if the first section is a **liaison**, the electronic Roadbook displays only the information related to that liaison. Once the first waypoint of the special stage has been validated, the **whole Roadbook is unlocked**, providing access to the full stage overview.

10. PROBLEM RESOLUTION

GPS CONNECTION LOSS

If the GPS connection is lost, the GPS screen is no longer accessible. The **Roadbook screen remains displayed**, and navigation is still possible using the Note + and Note − buttons.

EXAMPLE OF IN-RACE SCREEN



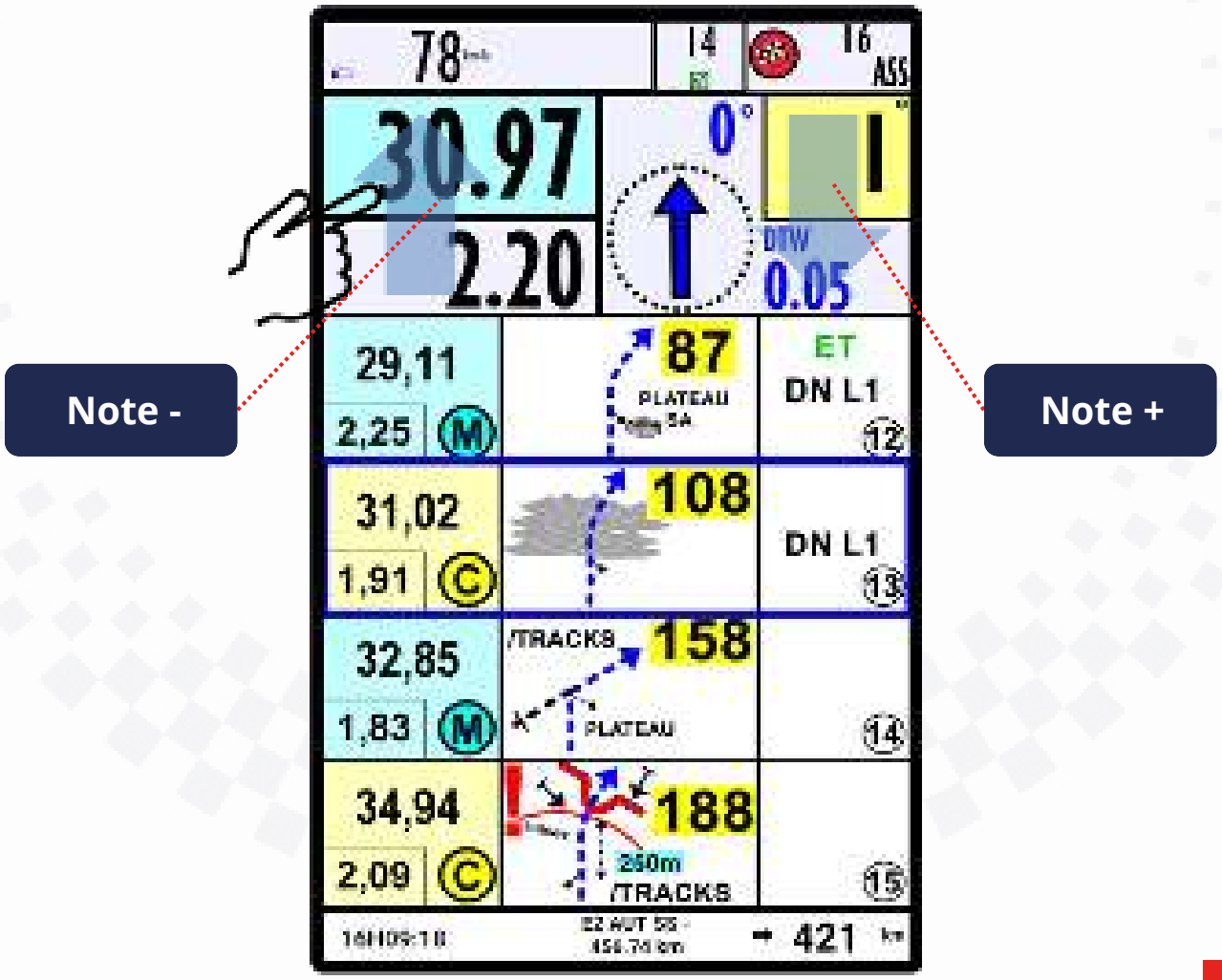
10. PROBLEM RESOLUTION

REMOTE CONTROLE CONNECTION LOSS

In the event of remote control failure, "**Touchscreen**" mode must be activated in the **Settings**. GPS information remains displayed, and the **roadbook arrows are hidden but remain active.**

Tapping one of the upper corners of the screen temporarily displays the arrows, allowing the user to **change the note.**

EXAMPLE OF IN-RACE SCREEN

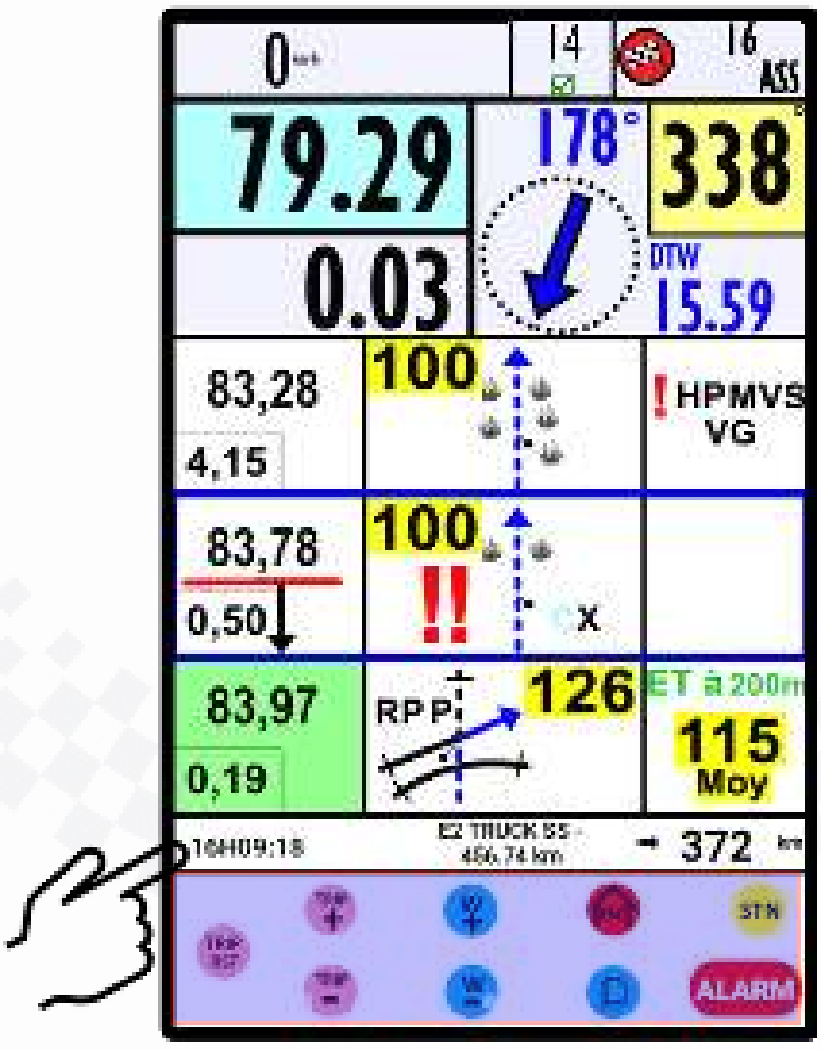


10. PROBLEM RESOLUTION

ON-SCREEN REMOTE CONTROL

A **virtual remote control** is available by briefly pressing the time display in the lower-left corner of the screen. It mirrors the physical remote control functions, except for F1, F2, **OK**, and **TRIP MOD**, which are not available. **STN** and **ALARM** are exclusive to the main Unik4 unit, and the **ALARM** function is only shown when the vehicle is travelling **below 15 km/h.**

EXAMPLE OF IN-RACE SCREEN



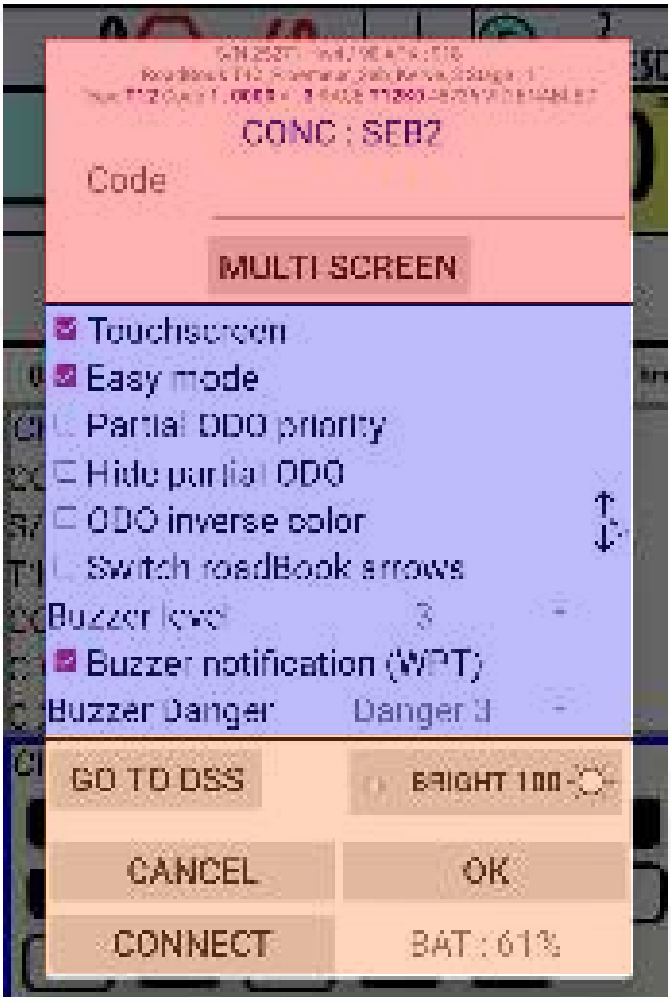
11. UNIK4 SETTINGS

THREE DEFINED ZONES

Z1 Information at the top, stage code entry, and the Unik4 operating mode: **FULL ROADBOOK** or **MULTI SCREEN.**

Z2 The device settings list.

Z3 Brightness and action buttons: **GO TO DSS**, **CANCEL**, **OK**, and **CONNECT**. *GO TO DSS scrolls the Roadbook to the last note of the liaison section.*



INFORMATION

A **swipe gesture** on the screen allows navigation through the settings. Enable "**Expert Mode**" to access advanced settings.

11.1 GENERAL SETTINGS

1 STAGE CODE

Stage code is displayed below the competitor number in the Information section of the settings screen. It can be entered via a virtual numeric keypad. Confirm with **OK**.

2 FULL ROADBOOK / MULTISCREEN

Allows **switching between modes.** In Multi-Screen mode, the electronic Roadbook is **not displayed on the screen.**
To switch between modes, simply tap the area.

3 TOUCHSCREEN MODE

"**Touchscreen**" mode enables **partial operation** via the touchscreen. It can also be used in the event of loss of connection with the remote control.

4 EASY MODE

When enabled, a press of **TRIP RST** on the remote control triggers **three different actions** simultaneously: odometer reset, note clearing, and advancement to the next roadbook note.

5 PARTIAL ODO PRIORITY

Increases the **partial ODO counter** while decreasing the Total counter.

6 HIDE PARTIAL ODO

The **partial ODO counter is hidden** from the display. Only the Total counter remains visible.

11.1 GENERAL SETTINGS

7 ODO INVERSE COLOR

I**nverts the colors** of the Total Odometer display.



In-Race Example

8 SWITCH ROADBOOK ARROWS

Reverses the Roadbook scrolling controls:
The Note + arrow scrolls the Roadbook **upwards**.
The Note − arrow scrolls the Roadbook **downwards**.

9 BUZZER LEVEL

Allows adjustment of the **buzzer sound intensity.**
The level ranges from **1** (lowest) to **3** (highest).

10 BUZZER NOTIFICATION (WPT)

If enabled, the external buzzer sounds **each time a waypoint is validated** during the stage.

11 BUZZER DANGER

Allows selection of which hazards trigger an audible alert:
None or **All**
Hazards **2 and 3**
Hazard **3 only** *(by default)*

12 ENCART “BRIGHT”

Enables adjustment of the Unik4 **display brightness**. Pressing the small sun **decreases** brightness, while the large sun **increases** it.

11.2 ADVANCED SETTINGS

1 ODO DECIMALS

Enables configuration of the ODO counter display **with one or two decimal** places.

2 HIGHLIGHTED LINE

In the Roadbook section, **enables a frame** to be displayed around the selected line:
"**0**" – No frame displayed
"**1**" – Frame on line 1
"**2**" – Frame on line 2

3 SPEEDOX MODE

Configures the speed limit alert operating mode:
"**Stop**": Alert inactive
"**Security**": One beep every 2 seconds at 5 km/h below the limit, then continuous beep at 3 km/h below the limit.
"**Performance**": One beep every 2 seconds at 4 km/h below the limit, then continuous beep at 2 km/h below the limit.

4 WPT JUMP

"**Yes**" – When a waypoint is missed, the GPS prompts to **skip directly to the next one.**
"**No**" – No prompt is displayed; the GPS continues to **target the missed waypoint.**

10.2 ADVANCED SETTINGS

7 SEE CP VALIDATION

Displays a line at the top of the device screen showing **the most recently validated CP.**

8 OFFSET RB

Defines an offset for the arrow transition point when crossing a waypoint:
(–X) triggers the transition X meters **before** the waypoint center, while **(+X)** triggers it X meters **after** the center.

9 ODO PITCH ADJUST

Default value is **100 m.**
Defines the increment applied by the **TRIP–** and **TRIP+** buttons with each press: **100 m, 50 m,** or **10 m.**

10 UTC SETTINGS

Enables selection of **the correct UTC time zone** for displaying local time on the device.