



**NAUTEK**  
**TACTICAL ELECTRONICS**

## **RACE SCREEN user guide.**



### **✓ TAKE A GOOD START**

with the distance to the start line.

### **✓ SAIL FASTER**

by optimizing your upwind and downwind angles.

### **✓ IDENTIFY THE WIND SHIFTS**

and current shifts thanks to the tactical compass.

### **✓ IDENTIFY THE LAYLINES**

with the Velocity and Bearing to windward and leeward marks.

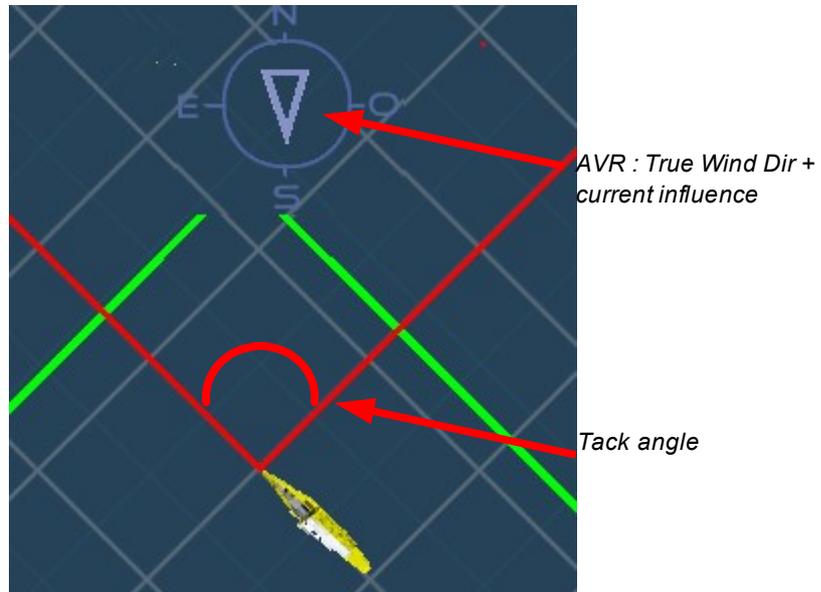
New since the V2.3 firmware version :

- a more intuitive way to choose the content of your RACE SCREENS.
- opportunity to store the windward mark position by a long key press on UP
- opportunity to store the leeward mark position by a long key press on DOWN
- Velocity to triangular races marks information:
  - VTD u ( upwind) : velocity to windward mark or its calculated position.
  - VTD d ( downwind) velocity to windward mark or committee boat position.
- Layline information: bearing to the triangular races marks

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## 1/ Before going on the water :



## Set your tacking angle

- Verify that your Tack angle is set to the correct value :
  - for a sportboat : use a 90° standard value.
  - for a sport catamaran : use a 110° standard value.

*Main Menu / RACE SETTINGS / Tack angle*



Or launch a calibration process by sailing on your best upwind by recording your mean course on each tack.

## 2/ Once on the race zone, set the actual characteristics of the race:

As your SC200 displays a COG value and not a magnetic heading, it needs speed to display a bearing information. You cannot get a COG value when your speed is equal to zero.

### Set the average True Wind Direction

- Take a wind direction measurement with a magnetic compass or
- Take a wind direction measurement in sailing downwind for example. Note this value and add to it 180° or use the value given by the committee, if it is available.

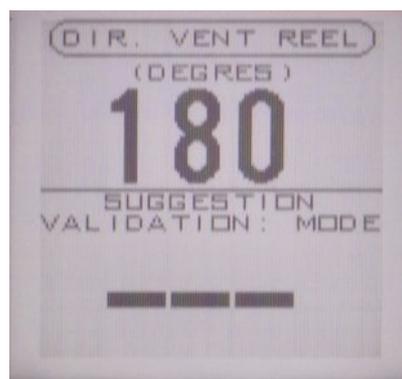


COG = 184°  
so TWD = 4°

From any display mode of your device, you can set the True Wind Dir by pressing simultaneously



and



and set the correct value by using  and  Or press  to validate the

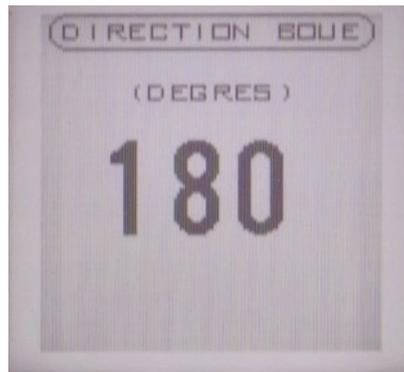
suggested TWD value, calculated by your SC200 using the previous value set and the instantaneous COG ( really useful when you are sailing upwind)

Press  to come back to your previous screen.

Remember: you need to set the TWD correctly to allow your SC200 to assume on which tack you are sailing and if you are sailing upwind or downwind.

## Set the estimated position of the windward mark

**Set the direction of the mark:**

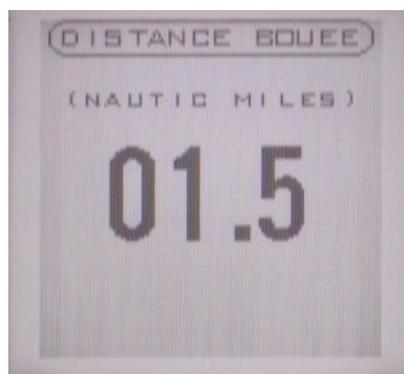


Use  and  to set the direction of the windward function of the information given by the race committee.

Then press 

**Set the direction of the mark:**

Set the distance to the windward mark function of the information given by the race committee.



Use  and  to set the direction of the windward function of the information given by the race committee.

Then press  to finish .

Your SC200 is now perfectly initialized and can compute the estimated position of the windward mark..

The following info : Layline, et velocity to windward mark, VTDu and velocity to downwind mark are now available to be used.



The VTD UP



The Layline info when sailing upwind



The VTD DOWN



The Layline info when sailing downwind

## Storing the GPS position of the windward mark

Using the RACE SCREEN mode, just do a long  press to replace the estimated position of the windward mark by the real position of the windward mark. You will also use the benefits of a more accurate information for VT Du and layline BUP.

Until the windward mark is not be updated, the GPS position of the windward mark of the day remains stored.

## Storing the GPS position of the leeward mark

Using the RACE SCREEN mode, just do a long  press to replace the position of the committee vessel by the real position of the leeward mark, when you will sail close to the mark.

You will also use the benefits of a more accurate information for VT Du and layline BUP. Until the windward mark is not updated, the GPS position of the windward mark of the day stays stored.

You will also use the benefits of a more accurate information for VT Du and layline BUP. Until the leeward mark is not updated, the GPS position of the leeward mark of the day stays stored.

Once a leeward mark shot, the VT Dd and layline B DN calculation are now performed concerning this position stored manually by the user..

### 3/ Using the distance to the starting line:

#### Set the 2 extremities of the start line

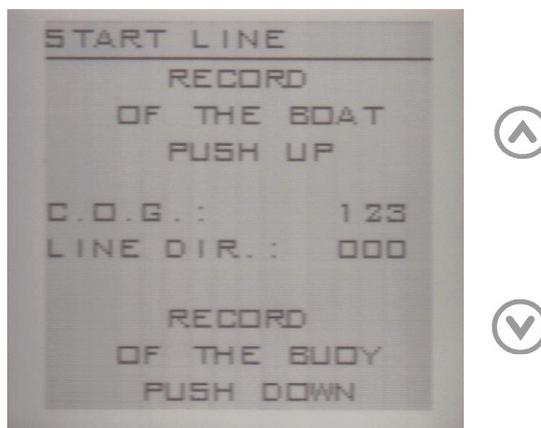
From any display mode of your device, MULTI SCREEN, or RACE SCREEN, you can set at any time the features of the starting line, by recording the position of the committee boat and the end of line buoy.

-To fix these positions, press simultaneously on  and .

*(In RACE SCREEN mode, press DOWN, keep DOWN pressed and press on MODE in order to prevent to stop the automatic display mode)*

-Once close the the committee boat, press : 

An **OK** confirmation message is then displayed on the screen of your SC.



-Once a first extremity is recorded, sail to the other extremity of the line. When close to the end of line buoy, press 

A second **OK** confirmation message is then displayed on the screen of your SC.

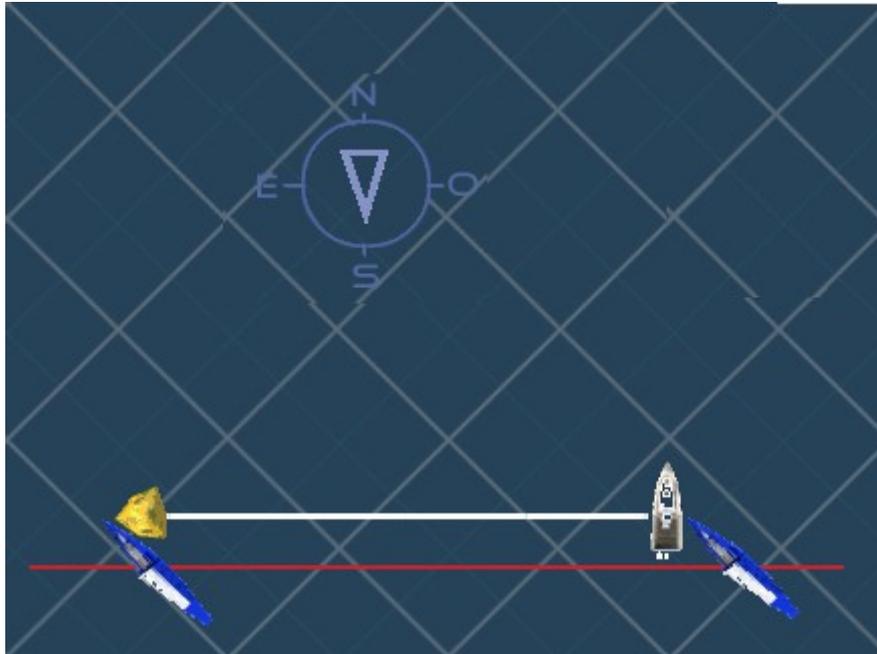
(Please note that the bearing you are following when you are sailing along the line is displayed as COG on this screen).

-At any time, press  to come back to your previous navigation screen, where you will be able to time the initial gun.

**Remark 1:** You are free to record the 2 extremities of the line in the order you can.

As long as you don't store a new position for one of the two extremities, the previous position stay stored in your device.

**Remark 2:** Try to keep the same boat angle to the the line when you are recording the positions of the two extremities in order to decrease the error of the distance [bow of your boat to SC200]



### Favored end of the starting line

**Remark :** Once the two extremities are set ( whatever the order you do it) the SC200 calculates automatically the line direction and displays it as LINE DIR.

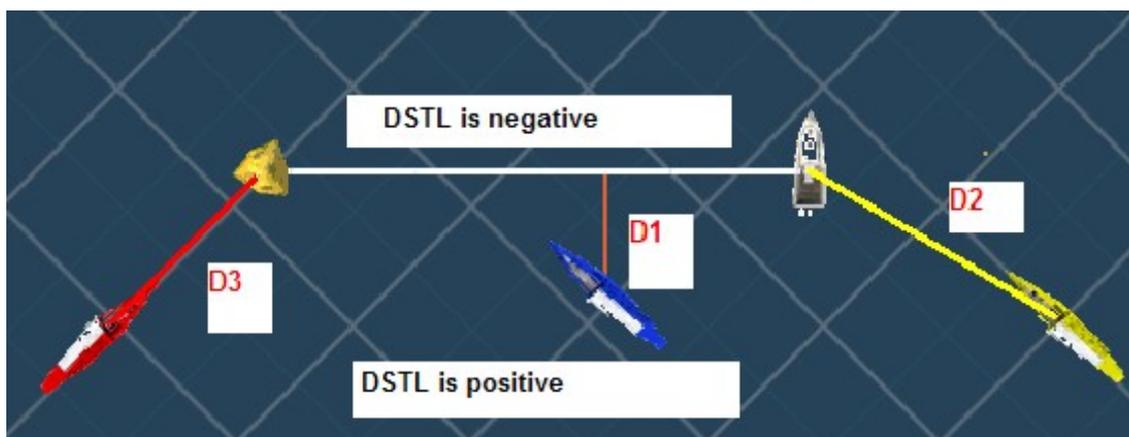
Your SC200 then automatically performs the comparison between this starting line direction and the mean wind direction set by the user and displays an help about the favored end of the starting line with the calculated line bias.



On this example, the start line looks to be 5° biased on port side from the calculation of your device. Prefer to start close to the Buoy.



-Press  and choose the RACE SCREEN mode to follow the variation D of the distance to the start line in meters or in feet (depending on your setting).



Before the start, if the Distance info is positive, then you are on the correct side of the line. If the Distance info is negative, then you should have crossed the line.

Please remember that the SC200 standard accuracy for position is around 3 meters(10 feet).

-The SC200 displays the shortest distance D1 when the boat is sailing along the segment [committee-end of the start line]

-The SC200 displays the distance to the committee when the boat is sailing above the committee: distance D2, and the distance to the end of the starting line buoy when the boat is sailing below the buoy distance D3.

**Remark1** : As the SC200 does not use the same formula to calculate D1, D2, D3; please note that the accuracy of D1 can be better than the accuracy of D2 and D3.

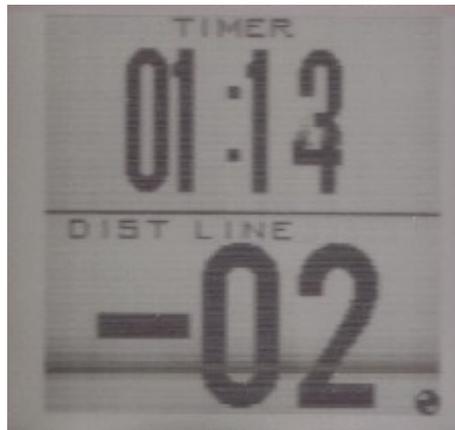
**Remark 2** : Please keep in mind that the mean horizontal dilution for the GPS technology is 3m (50% of the time).

**All the settings for your SC200 are now correct for this run !**

**4/ Use the race screens in automatic mode .**

*Main Menu / Race screen*

- Press  until you have the countdown race timer displayed on your SC200.
- Press  to start the countdown of the race timer at the signal. You can synchronize the timer value to the nearest full minute, just by pressing 



-Once the timer has lapsed, the race screen START SCR, which displayed time to start and distance to the start line will automatically disappear.

The new race UPWIND SCR will automatically appear. This is the upwind race screen displaying SPEED / course shifts (TUD). It will be displayed while you keep in sailing upwind.



-Once arrived at the upwind buoy, and as soon as you will begin to sail downwind, the UPWIND SCR, the upwind screen displaying SOG/TUD will be automatically be replaced by the DNWIND SCR, the downwind screen, displaying SOG/VMG while you keep in sailing downwind



and so on...

This way, the SC200 displays alone and automatically the tactical information you need according your course over ground. You can now just think about making the boat go fast and not about how to use your electronics.

**Remark 1 :** At any time you can change the contents of the display of the race screens

**Remark 2 :**

At any time just press simultaneously on  and  to run a correction of the True Wind Direction.

When sailing upwind, your SC200 performs automatic True Wind Direction calculations and propose it as a suggested value.

Just press  to validate it

and press  to go back to the previous screen.

**Remark 3 :**

-press for more than 1s on  to record the GPS position of the windward mark

-press for more than 1s on  to record the GPS position of the leeward mark

## **5/ Once the first race run is finished.**

Press  until the chrono is displayed and press  to stop it.  
Press one more time  to set the timer to its default value for the next start.

This way, you have also recorded your GPS tracks while sailing your run from the starting signal to now.

On the first  press, the  record in progress icon disappears on the right bottom side of the screen.

For the next race signal just press again  to restart the countdown of the timer.

The automatic display switching mode is enabled again, and a new record is now in progress. At the end of the day, note that you will get as many records as many time as you have started the timer.

At any time of the race, please note that you can press simultaneously on  and  to reset the True Wind Direction if this one has changed, by increasing or decreasing the value.

Once done, just press  to go back to your previous race screen without disabling the automatic mode.