

Chapter 4: Calibration

4.1 Introduction

The ST60 Wind instruments are set up with factory-programmed default settings, so in order to optimize the performance of the instruments on board a particular vessel, the procedures in this Chapter must be carried out immediately after the completion of installation, and before the equipment is used for navigational purposes.

Where practicable, the calibration procedures are presented diagrammatically to show the sequence of key presses and the resulting displays. Adjustment instructions are given as applicable.

EMC conformance

- Always check the installation before going to sea to make sure that it is not affected by radio transmissions, engine starting etc.
- In some installations, it may not be possible to prevent the equipment from being affected by external influences. Although this will not damage the equipment, it can lead to spurious resetting action, or momentarily may result in faulty operation.

4.2 User calibration

The User calibration procedures:

- Linearize and align the wind transducer.
- Select the required wind speed units

Linearizing and aligning the wind transducer

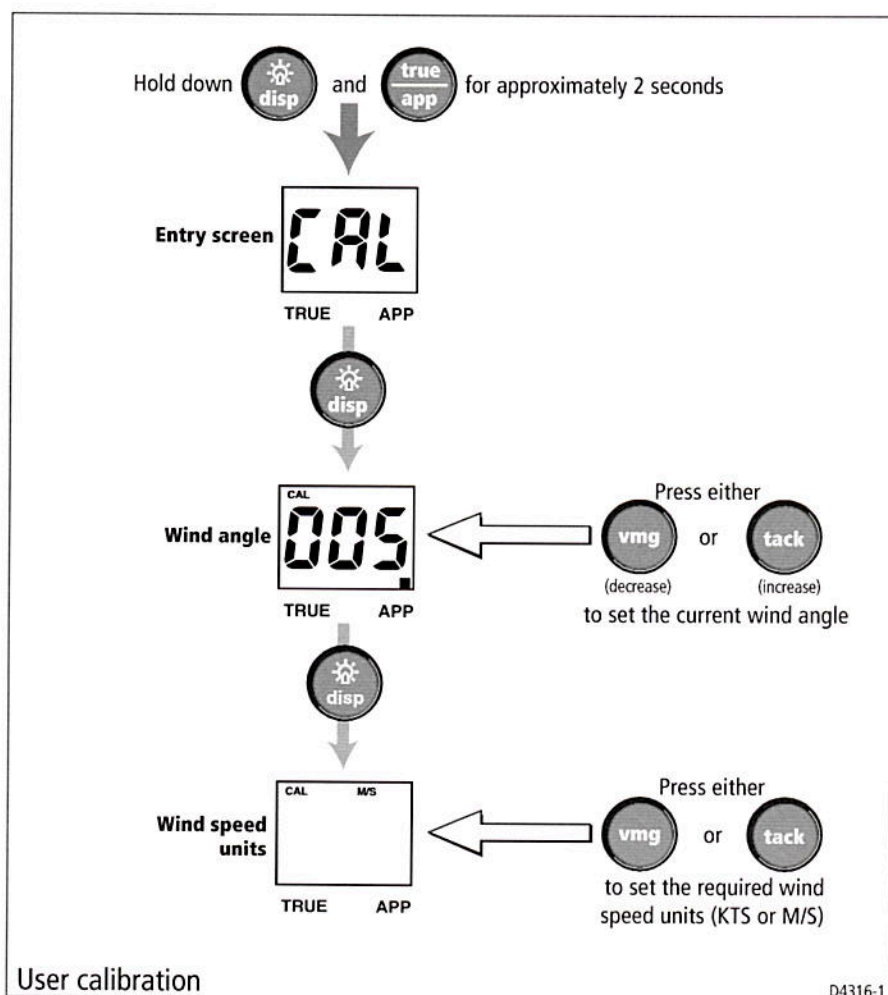
This procedure ensures that the sensors in the windvane transducer are correctly calibrated to record rotation of the windvane, then compensates for any small errors which may exist in the alignment of the wind transducer.

To do this:

1. Power-up the ST60 Wind instrument.
2. Slowly turn the vessel through two complete circles. This procedure automatically linearizes the windvane. A successful linearization is indicated by the digital display flashing and the buzzer sounding three beeps.

3. Hold down the **disp** and **true/app** keys for approximately 2 seconds to enter User calibration then use the **disp** key to select the wind angle screen (see the User calibration flow diagram).
4. Sail directly into the wind and adjust the analog pointer to zero, using the **vmg** and **tack** keys. If you are unable to achieve the required degree of accuracy due to sea conditions, and errors become apparent during subsequent tack operations, repeat this procedure to achieve alignment accuracy.
5. Display the wind speed units screen.
6. Use the **vmg** and **tack** keys to select the units you want, either knots (KTS) or meters per second (M/S).

Note: Any speed unit changes will be applied to other SeaTalk instruments.



Leaving User calibration

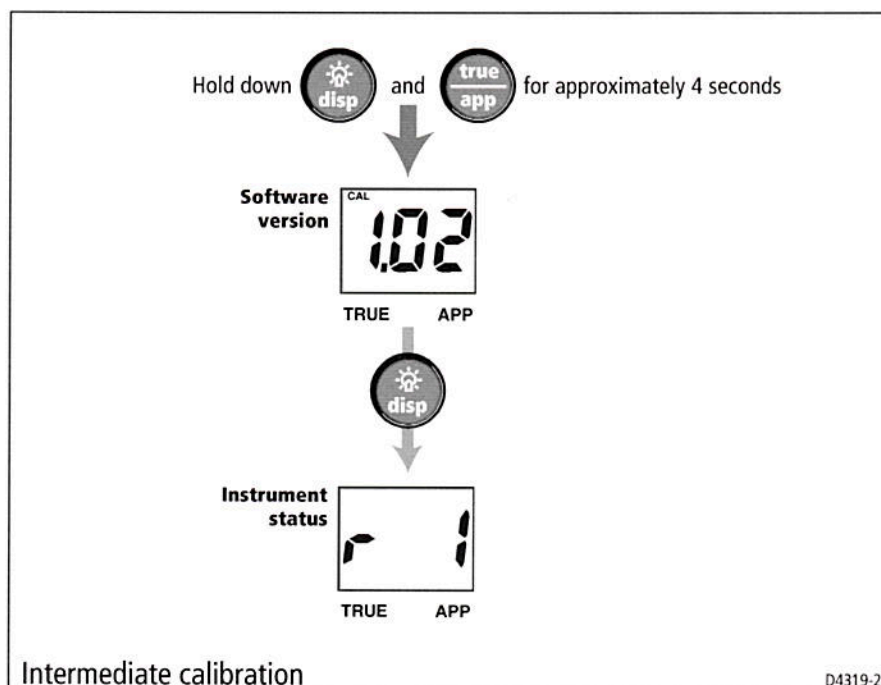
Hold down the **disp** and **true/app** keys for 2 seconds to save your settings, exit User calibration and resume normal operation.

4.3 Intermediate calibration

The intermediate calibration screens enable you to check:

- The instrument software version number. This information is normally required if you request parts or repairs.
- The instrument status - either r0 (master) or r1 (repeater).

To use the Intermediate calibration screens, hold down the **disp** and **true/app** keys for approximately 4 seconds.



Leaving Intermediate calibration

Hold down the **disp** and **true/app** keys for 2 seconds to exit Intermediate calibration and resume normal operation.

4.4 Dealer calibration

The Dealer calibration procedures enable the following parameters to be set:

- User calibration on/off.
- Wind angle and speed response.
- Velocity Made Good (VMG) response.
- Wind speed calibration.
- Boat show mode on/off.

Dealer calibration also gives access to the Factory defaults screen. This enables you to re-apply the factory settings if you want to reset the instrument to a known operating condition.

To commence Dealer calibration, hold down the **disp** and **true/app** keys together for approximately 12 seconds, to select the Dealer calibration entry page (see Dealer calibration diagram, sheets 1 and 2). Then momentarily press the **vmg** and **tack** keys to proceed with the calibration. As the calibration progresses, use the **disp** key to move from screen to screen.

User calibration on/off

Use either the **vmg** or **tack** key to toggle the User calibration either on (UC1) or off (UC0) as required.

Response settings

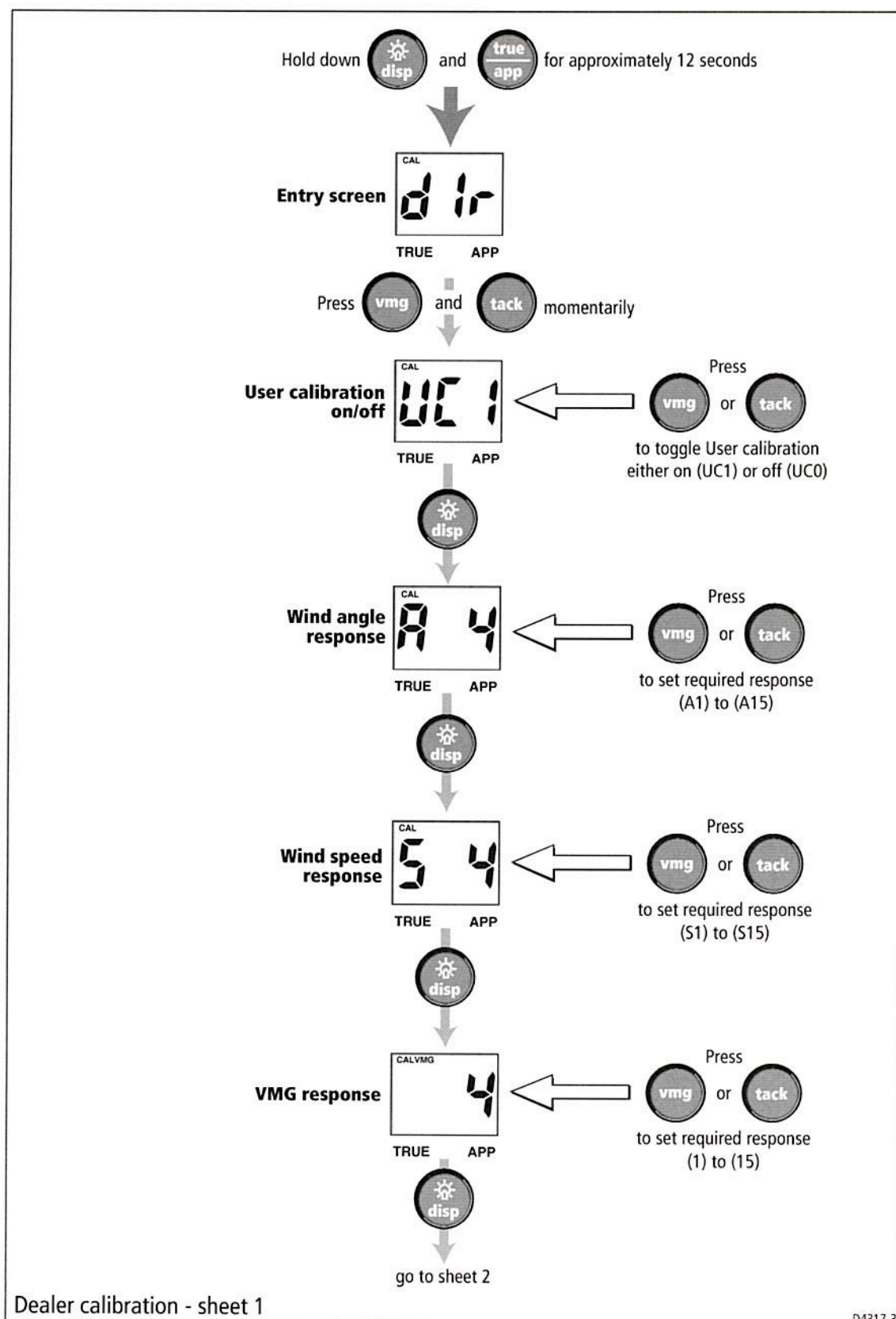
The response values (for wind speed, wind angle and VMG) determine the frequency at which information is updated. A low number provides a smooth response and a high number a much livelier response with rapid pointer movement.

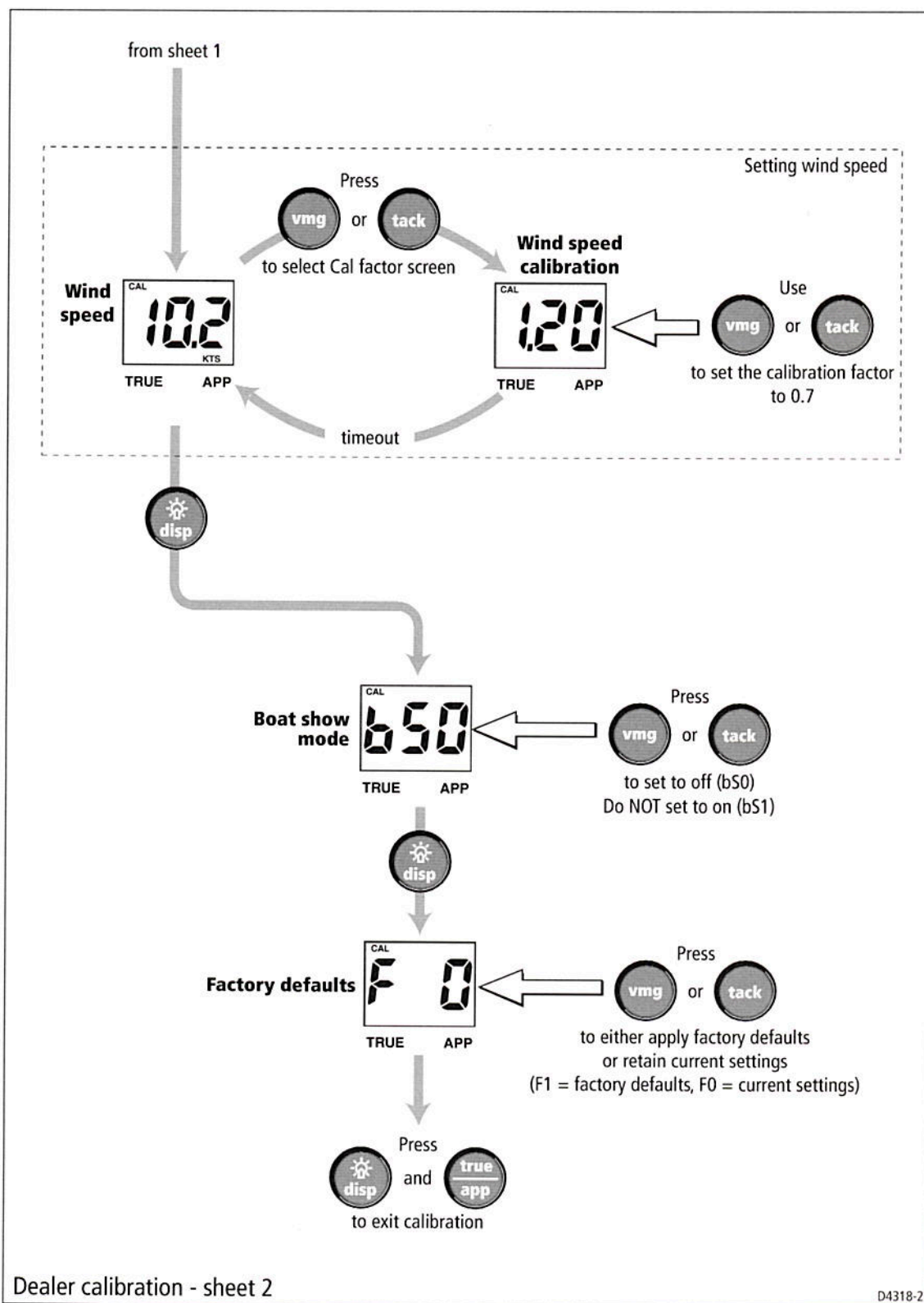
Use the **vmg** (decrement) and **tack** (increment) keys to set the required value. Response values are from 1 to 15.

Wind speed

The Wind speed and Wind speed calibration screens are used to set the correct value for the wind speed. On entry (from the Wind speed response screen), the current value for apparent wind speed is displayed. Set the correct wind speed value, by applying a calibration factor as follows:

1. Use the **vmg** (decrement) and **tack** (increment) keys to switch from the Wind Speed screen to the Wind Speed Calibration screen.
2. Use the **vmg** (decrement) or **tack** (increment) key to set the wind speed calibration factor to 0.7.
3. Timeout to the Wind Speed screen, and if further adjustment is necessary, repeat steps 1 and 2.





Boat show mode

CAUTION:

Do NOT enable this mode. It must only be used for demonstration purposes.

Ensure that the Boatshow Mode Use is set to bS0 (disabled). If necessary, press either the **vmg** key or the **tack** key to achieve this.

Factory defaults

You can use this screen to reset the operating parameters to the factory default values. Use the **vmg** and **tack** keys to make the required selection.

Note that the selection you make at this screen will be applied when you exit the screen, so be sure you make the correct selection.

If you want to apply the factory defaults, ensure the display shows F1 , but **if you want to retain the current values, ensure that the display shows F0 .**

Leaving Dealer calibration

Hold down the **disp** and **true/app.** keys for 2 seconds to save your changes, exit Dealer calibration and resume normal operation.