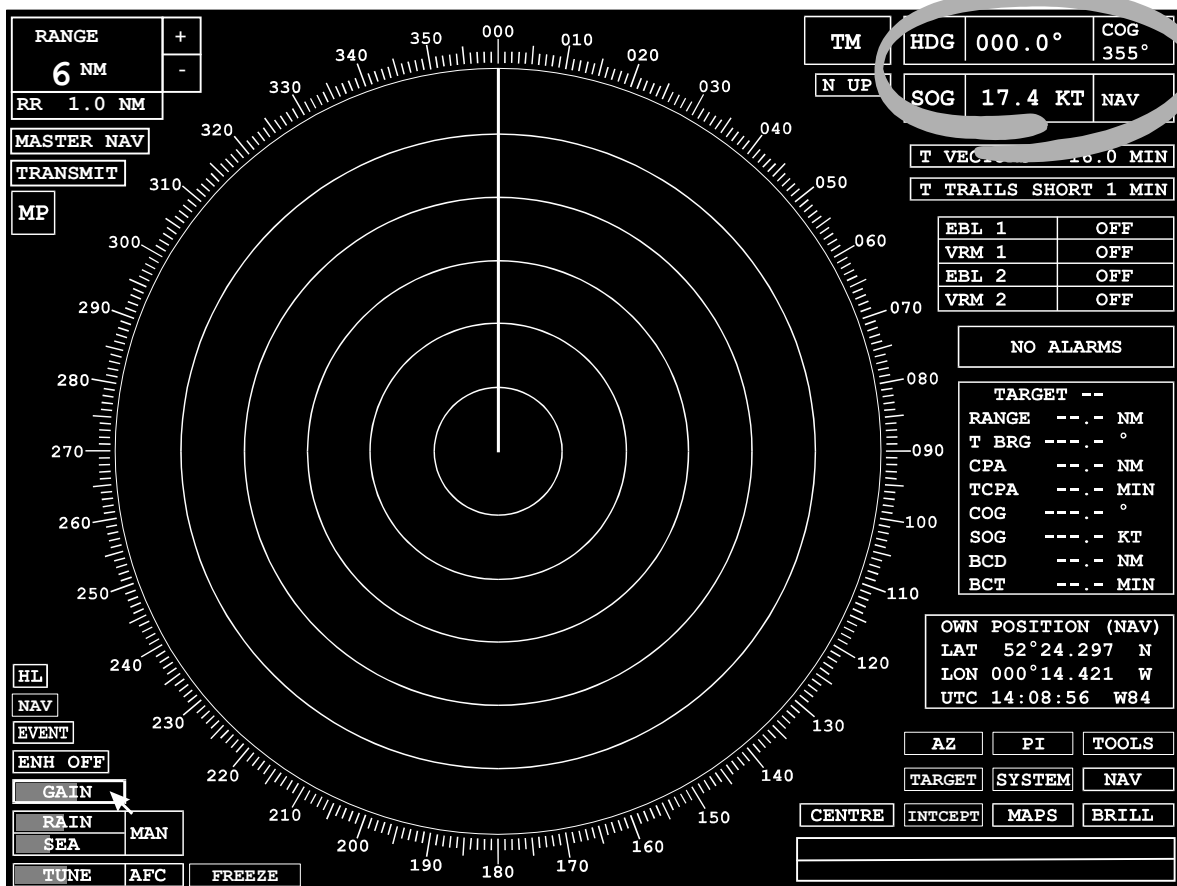


CHAPTER 4

Ship's Heading and Speed



Covered in this chapter:

- The information shown in the heading display.
- The information shown in the speed display.
- Selecting a speed mode.

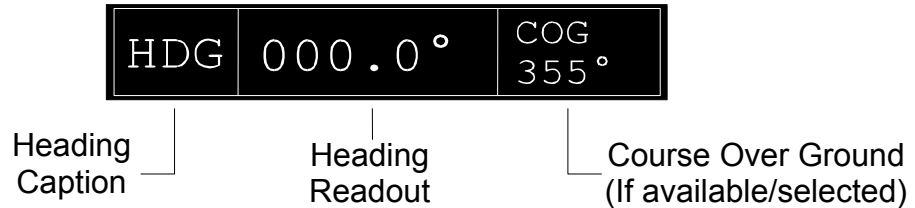
Introduction

Ship's **Heading** and **Speed** are displayed in the top right corner of the display and are available in both Standby and Transmit modes.

HDG	000.0°	COG 355°
SOG	17.4 KT	NAV

Heading Display

The heading display is divided into three fields.



Heading Caption

The heading caption is always 'HDG'.



Heading Readout

A readout of true heading is always displayed.



Compass Errors

A compass error will cause the heading readout to change from green to red and a compass alarm will be raised. If a stabilized picture presentation is in use, and the error is still present, then after 1 minute, the picture will revert to head-UP.

Compass Alignment

The compass is automatically aligned, and needs no adjustment.

Course Over Ground



If **SOG** (Speed Over the Ground) is selected in the speed display, this shows COG (Course Over the Ground). If the speed is less than 1KT the course is shown as dashes.

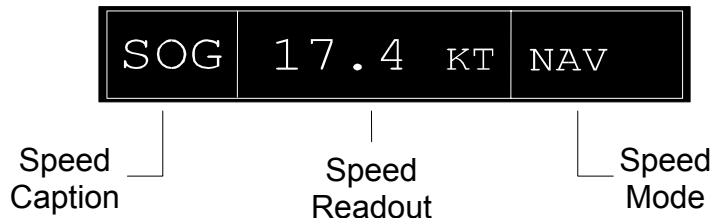
If **STW** (Speed Through the Water) is selected in the speed display, the field is empty.

Speed Display



This shows **own ship's speed** and is divided into three fields.

Note – The Speed Caption, and Speed Mode fields cannot be selected when in any Edit Mode.



Speed Caption

The speed caption is,

STW (Speed Through Water) when the selected speed is 'water locked', or

SOG (Speed Over the Ground) if the speed is 'ground locked'.

*Note – The caption is also **SOG** if a water speed has been selected and manual **drift** is being applied. See **Applying Drift**.*

The Speed Caption field is only active when the ECHO REF speed mode is selected. See **ECHO REFERENCE Speed Mode**.

Speed Readout

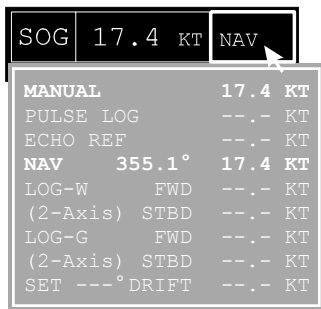


This can only be changed by the user when Manual speed mode is selected. See **MANUAL Speed Mode**.

Speed Mode



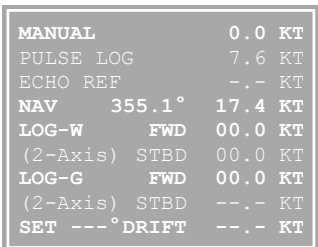
An abbreviation of the selected Speed Mode is displayed in this field. The Speed Caption field is only active when the ECHO REF speed mode is selected. See **ECHO REFERENCE Speed Mode**.



Speed Mode Options

A left click on the speed mode will reveal a drop down menu containing a list of speed modes. The external speed sources available to the user are determined during Initialisation, see Ship's Manual, Chapter 4. Refer to table on next page.

Note – If no data exists, dashes or data in red is displayed. A menu option is displayed in red if an alarm exists for that particular speed source. ECHO REF is not highlighted when in standby.



Selecting a Speed Mode

1. Within the menu, position the screen cursor over the required mode.
2. Left click to select.

SET and DRIFT can be applied in all speed modes except Echo Ref, Nav or Ground Log. See **Applying Drift**.

The table below gives a brief description of the various speed modes.

SPEED MODE	SPEED CAPTION	BRIEF DESCRIPTION
Manual	STW	Allows you to enter a speed, normally in circumstances where no speed data can be received from other external devices. The acceptable input range is from 0 to 75kts. See 'Manual Speed Mode'.
ECHO Ref	SOG	Any tracked target can be selected as an echo reference. Once selected, its velocity is assumed to be zero and own ship's speed is calculated on this assumption. The selected target is marked with an 'R' symbol in the video circle. See 'Echo Reference Mode'.
Pulse Log	STW	Speed is derived from a Pulsed Log. A Log Error alarm is raised if the input fails or the indicated speed is in excess of 75kts.
Navigation Sensor	SOG	Speed is derived from a Navigation Sensor. A Nav Speed alarm is raised if the input fails.
Serial Log Ground Locked (LOG-G)	SOG	Speed is derived from a Serial Log. Where the log is dual axis the fore/aft and port/starboard components of both ground and water data are displayed in the speed menu. The resultant velocity is displayed in the main speed readout for ground locked LOG, and the fore/aft component is only displayed for water locked LOG. Shown as dashes (-) if off. A Log Error alarm is raised if the input fails.
Serial Log Water Locked (LOG-W)	STW	

Note - The speed mode in use is stored internally at switch off.

Manual Speed Mode

When MANUAL speed mode is selected the speed can be set as follows.



1. Position the screen cursor over the speed readout.
2. Left click to access. Speed is displayed in yellow.
3. Move the cursor control left or right to change the speed.
4. Left click to accept the new speed.

Alternatively a right click will reveal a drop down keypad from which the speed can be entered, refer to Chapter 15

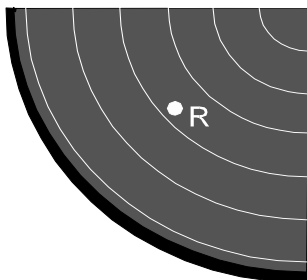
ECHO REFERENCE Speed Mode

Selecting the ECHO REF mode forces the screen cursor to the centre of the video circle.

Selecting a Target as the Echo Reference

1. Position the cursor over an established target.
2. Left click to select that target as the echo reference. 'R' is displayed adjacent to the reference target and the target has its true vector removed, and its speed is set to zero.

A prompt is displayed if not target is found



Selecting a New Target as the Echo Reference

1. Left click on Speed Caption to force screen cursor to centre of circle as before.
2. Select a new target using the procedure above.



Manual Set and Drift

A Set angle and Drift rate, can be applied manually in all water referenced speed modes.

From within the drop down menu,

MANUAL		17.4	KT
PULSE LOG		--.-	KT
ECHO REF		--.-	KT
NAV	355.1°	17.4	KT
SER LOG	FWD	--.-	KT
(WATER)	STBD	00.0	KT
SER LOG	AFT	--.-	KT
(GRND)	PORT	--.-	KT
SET	---°	DRIFT	--.- KT

1. Position the screen cursor over the SET or DRIFT caption.
2. A left click on either caption will reveal a drop down numeric keypad. This keypad includes a 'CANCEL' option to replace the SET and DRIFT values with dashes when not required. If you haven't used the keypad before, refer to Chapter 15.

SOG	17.4	KT	LOG
			DRIFT

Drift Applied to Water Speeds

If a water speed has been selected, and a Set and Drift rate have been entered, drift is applied to generate a ground speed and the speed caption changes to SOG. The word 'DRIFT' is also displayed in orange under the mode abbreviation in the Speed Mode field.

Any previous values of Set or Drift are automatically cleared on selecting a ground locked log speed, but it is possible to enter new values prior to selecting a water mode.

Note – If the selected speed input is a dual-axis log, the SOG is calculated using the SET & DRIFT which are calculated from both fore/aft and port/starboard components of the log input.

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