stowe

S/D

FOR

INSTRUCTION & INSTALLATION MANUAL

Datalíne

stowe

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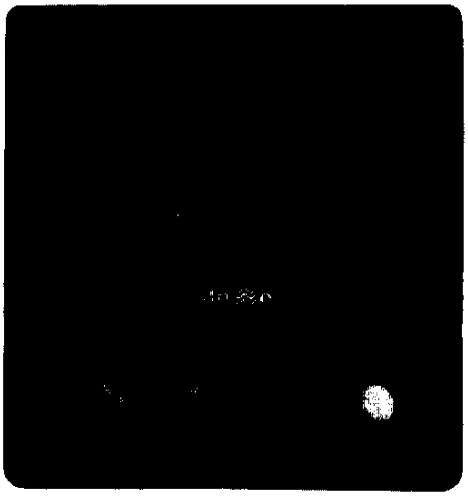
S/D



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1. INTRODUCTION TO DATALINE

DATALINE is a major advance in marine instrumentation.

Conceived by Stowe, a world leader in the manufacture of marine instruments, DATALINE fully utilises all the skill and experience acquired over 8 years manufacturing products such as the internationally acclaimed Navigator and Micro ranges of sail and powerboat instruments.

DATALINE takes all the recognised Stowe hallmarks of quality, ruggedness and reliability and combines them with the technological and visual appeal needed to satisfy the many and varied demands of today's yacht and powerboat owners.

Most significantly, though, DATALINE achieves this in a way that brings unprecedented benefits not only to the end user, but also to the boatbuilder and electronic installation specialist.

This is how it works:

The DATALINE system, as the name implies, is based on a single cable which carries both the power and the data round the boat on a serial Databus using a communication language called NMEA 0183.
This language is the established industry standard and since DATALINE provides both NMEA 0183 inputs and outputs, compatibility is achieved with other navigational aids, such as Satnavs, compasses, plotters and autopilots, which use the same language. By adopting the industry standard the boat's information system is not subject to the 'closed system' constraints of some manufacturers' products so you are free to interface with other compatible navigational aids, irrespective of manufacturer.

The signal is generated from the DATABOX which is installed in a safe, dry environment below deck near the mast, or behind the chart table, or perhaps in the engine compartment of a powerboat. All sensors are wired to the DATABOX.

The DATALINE itself is then THE ONLY WIRE that runs to the instruments, which are simply linked together in a 'daisy chain' in whatever order suits the installation.

The DATALINE system has the capability of linking from one up to 15 instruments and remains as flexible and as viable for any installation, big or small, power or sail.

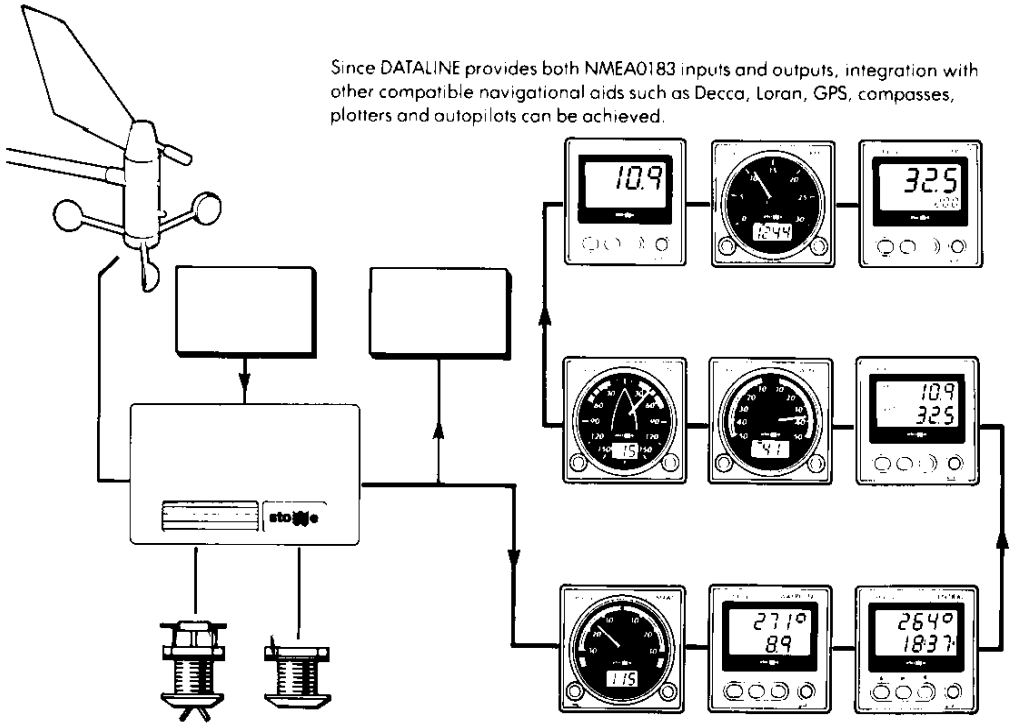
Since the DATABOX contains the total capability of the system any additional instrument head can be simply connected into the line without any upgrade to the electronics.

A complete range of analogue and digital instrument heads provides unparalleled flexibility for use in cockpit, flybridge, chart table, or indeed any location on the boat.

In addition to the advances and benefits inherent in the DATALINE system concept, the instrument heads themselves incorporate design features that place DATALINE many years ahead of any comparable instrument system. These include an integral moulded window for water tightness and damage resistance, removable dessicant pack and replaceable clip on cover.

2. DATALINE SYSTEM DIAGRAM

The DATALINE range of yacht instruments includes SPEED multifunction, DEPTH, WIND, WIND PLUS, WAYPOINT Decca/Loran repeater, S/D speed/depth dual display and CENTRAL multifunction instrument.



3. DATALINE S/D

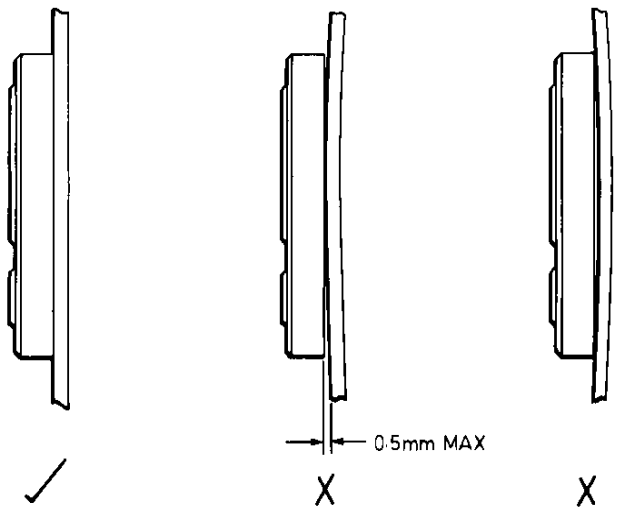
Technical Specification

Electronics	4 Bit Micro + 8K of ROM	
Power	10 – 16V @ 10mA plus 60mA for lighting when required	
Temperature Range	–10°C to 70°C	
Size	110 × 110 × 17mm	Depth Overall 38mm
	4⅓ × 4⅓ × ⅔ inches	Depth Overall 1½ inches
Weight	210 grams	
Mounting Hole Size	50mm (2 inches)	
Speed Damping	Light - Speed averaged over 4 seconds	
	Heavy Speed averaged over 16 seconds	
Boatspeed Range	0 to 99.9 knots, resolution 0.01 knot, accuracy ±3%	
Depth Range	0.8m to 120m, resolution 0.1m, accuracy ±5%	
	2.6ft to 394ft, resolution 0.1ft, accuracy ±5%	
Temperature Range	–10°C to 40°C, resolution 1°C, accuracy ±2%	

4. INSTRUMENT HEAD INSTALLATION

The instrument head is fully waterproof and can therefore be installed on deck or below. The connections should be protected from water penetration and should, if possible, allow rear access to remove the dessicant pack annually.
The position selected should in the first instance meet the requirements of the helmsman or crew. The analogue head should be at least 150mm (6") away from a magnetic compass.

The selected surface must be flat and even to within 0.5mm.



N.B. DO NOT OVERTIGHTEN FIXING SCREWS

Step 1 Once a suitable position has been found, the installation can begin. For security reasons a note should be made of the unit serial number, and kept in a safe place.

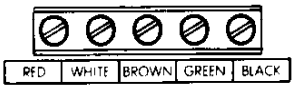
Step 2 Carefully position the self-adhesive template provided on the surface where the instrument is to be mounted.

Step 3 Drill a small pilot hole first and then check the location on the other side of the panel or bulkhead to confirm suitability.

Step 4 Open hole out using a 50mm (2") cutter in a hand held brace or electric drill. Drill the 4 fixing holes using a 2.5mm (3/32") drill.

Step 5 Connect the instrument to the Dataline wire, making sure that the colours are correctly wired to the terminals. The Dataline wire can either be taken from the Databox or from any convenient instrument head. Instrument heads can be connected in any order.

Connection Diagram



Step 6 Before finally fixing the instrument in position, the installation should be checked functionally.

step 7 If it is not possible to gain access to the instrument back when fitted, the terminals at this stage should be covered with a liberal coating of silicone grease, vaseline, WD40 (or similar moisture dispersant). These materials will not harm any other instrument components.

Step 8 Secure the instrument head in place using the 4 No. 6 self tapping screws provided and ensure the sealing gasket is correctly located. DO NOT OVERTIGHTEN as the instrument can be permanently damaged if distorted — tighten screws lightly and evenly.

WARNING: DO NOT use any form of sealing compound on the instrument back. This can damage the instrument and prevent access to the dessicant pack.

Step 9 Finally, the cover of your choice, black or white, can be clipped on over the instrument.

5. DATALINE S/D OPERATING INSTRUCTIONS

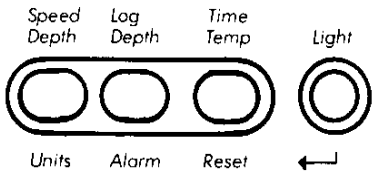
Notes on using this guide

This guide has been written to allow the user to get the most out of the instrument.
The diagrams included show the button sequences and the displays expected. NOTE: The values used in the diagrams are imaginary and should not be expected in any set-up. Shading is used to allow the display information concerned to be highlighted.

Notes on setting alarms/calibration/lights

When setting an alarm level, calibration factor and lighting, the value will automatically effect all other heads in the system, i.e. only one head needs to be set.

Using buttons

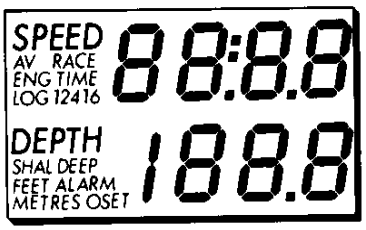


The functions written above the buttons (in grey) are the main functions; the functions below the buttons (in orange) may only be selected when used in conjunction with the ←┘ button, i.e. they must be pressed together.

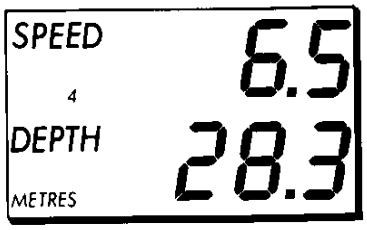
To be sure that function has been selected, the unit will 'beep' when a button is pressed.

FUNCTIONS

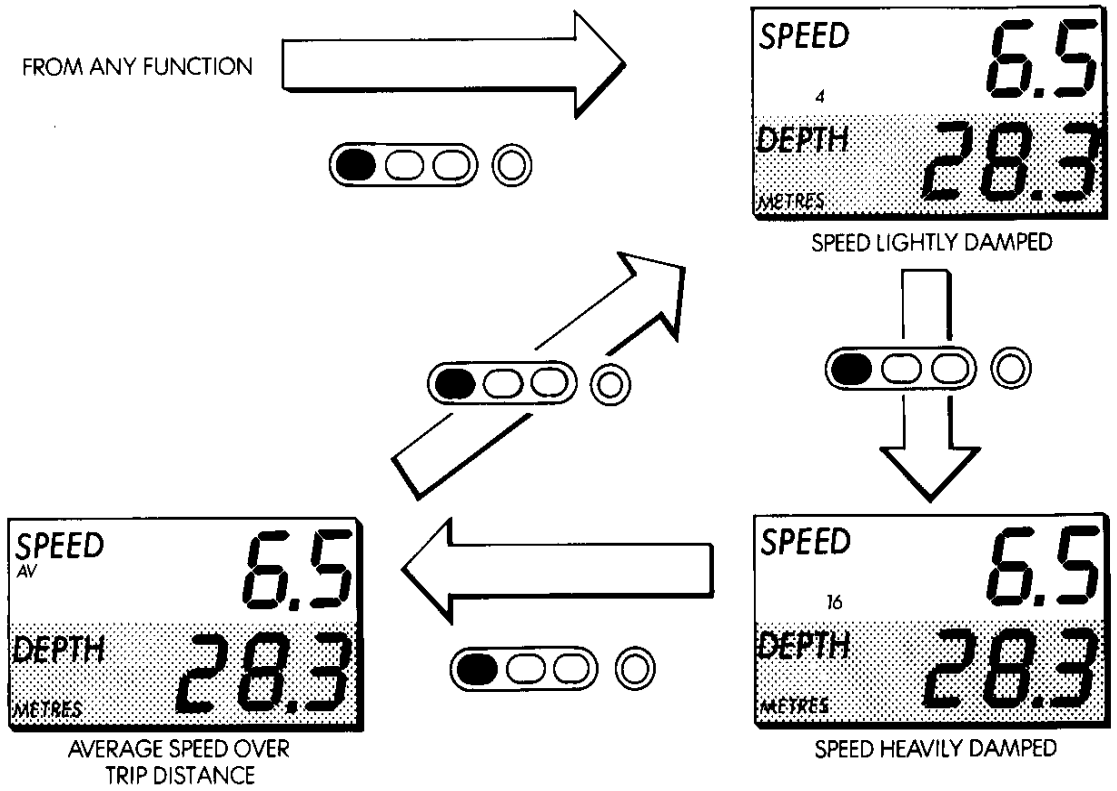
On powering up the system, the LCD will show all the segments for approximately one second, thus:



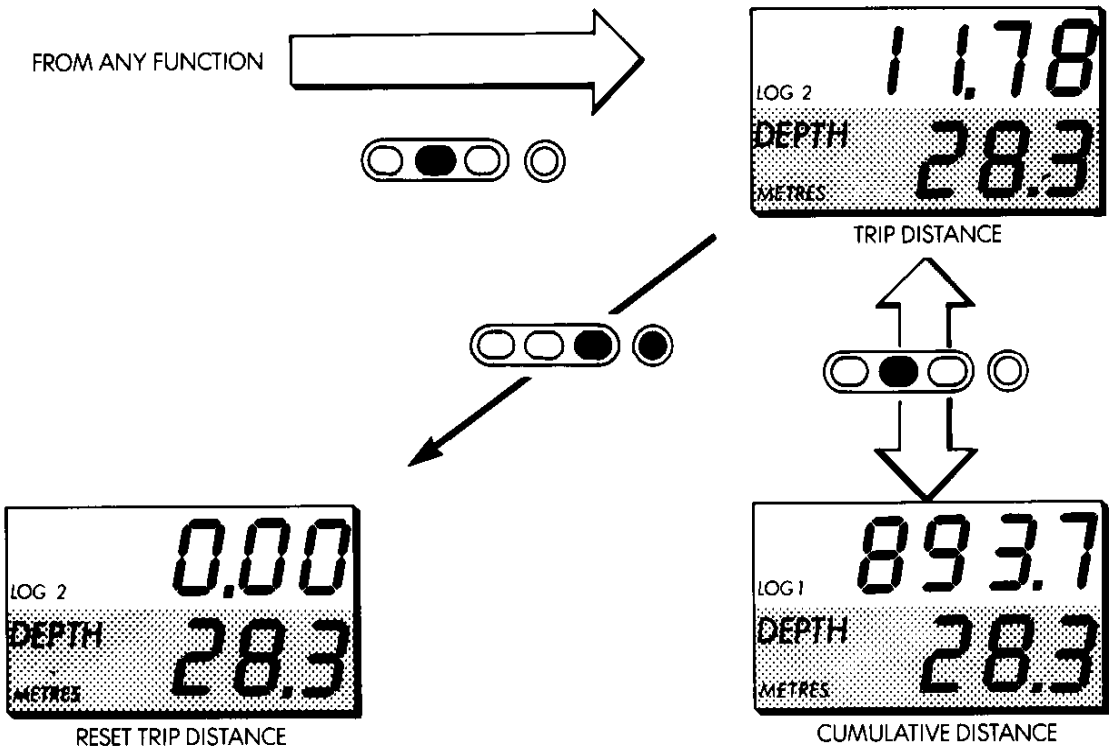
The display will then show the current operating values in the lightly damped speed mode:



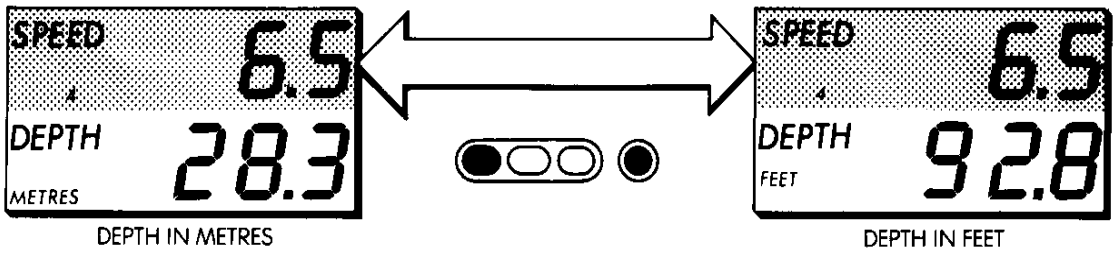
SPEED FUNCTIONS



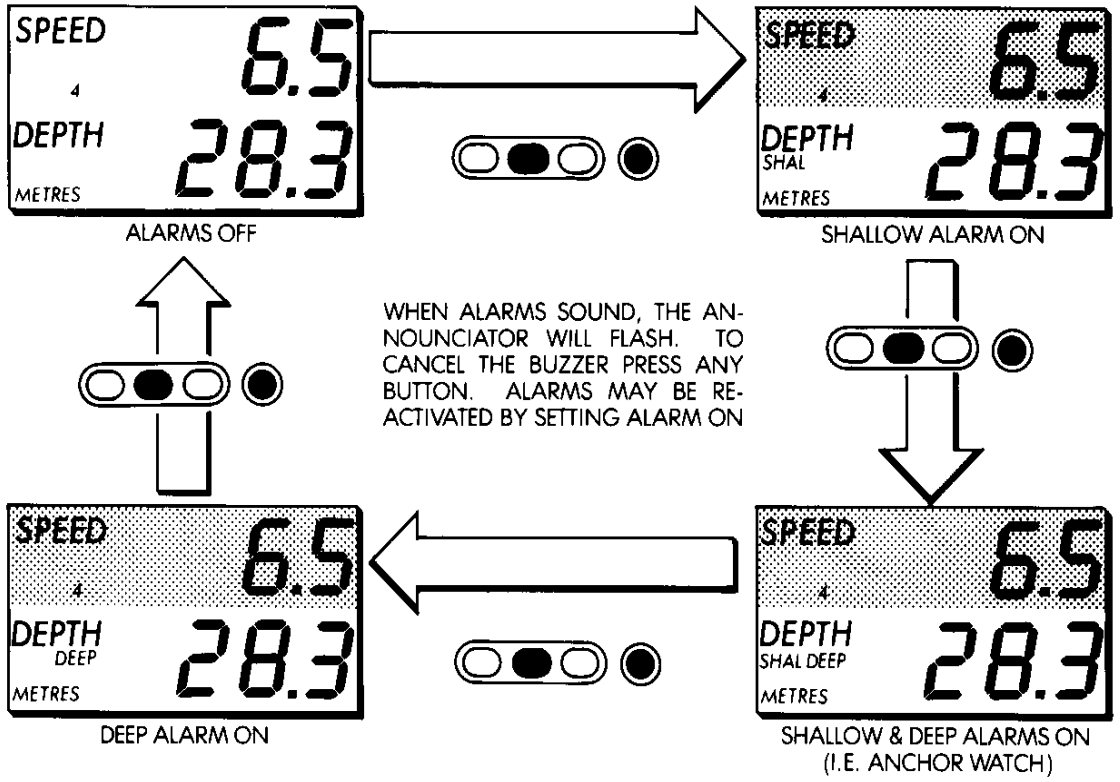
LOG FUNCTIONS



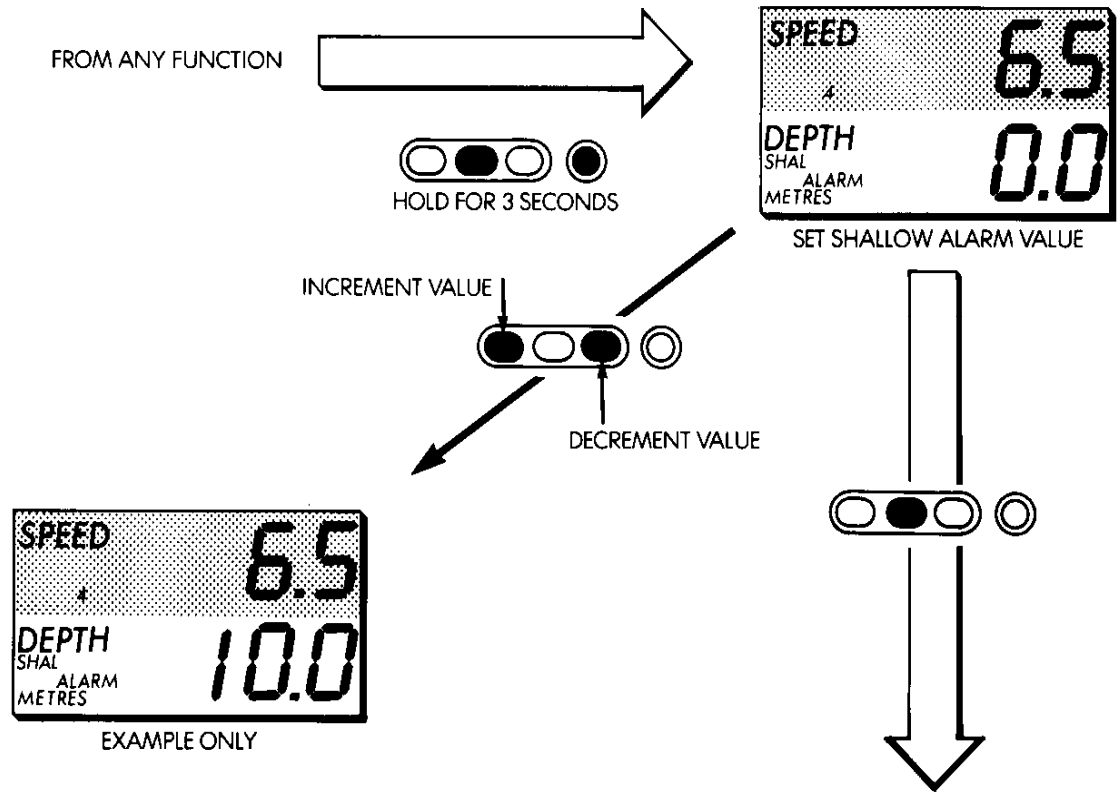
DEPTH (UNITS CONVERSION)

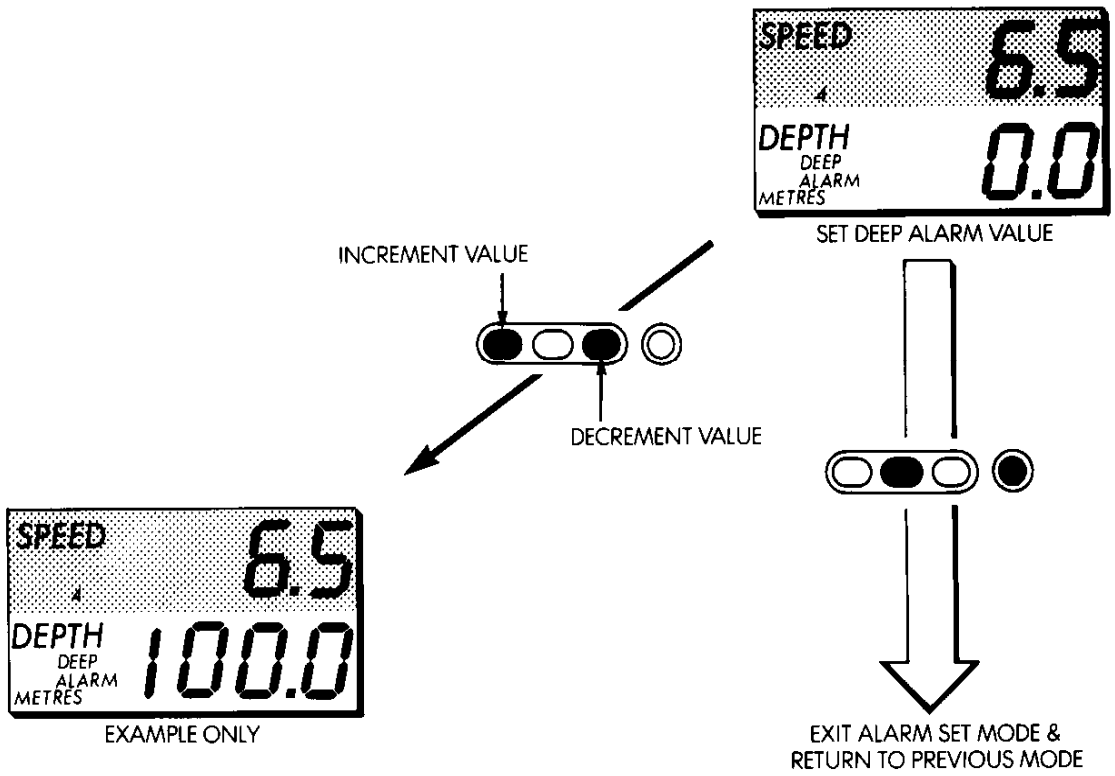


ENABLE/DISABLE DEPTH ALARMS

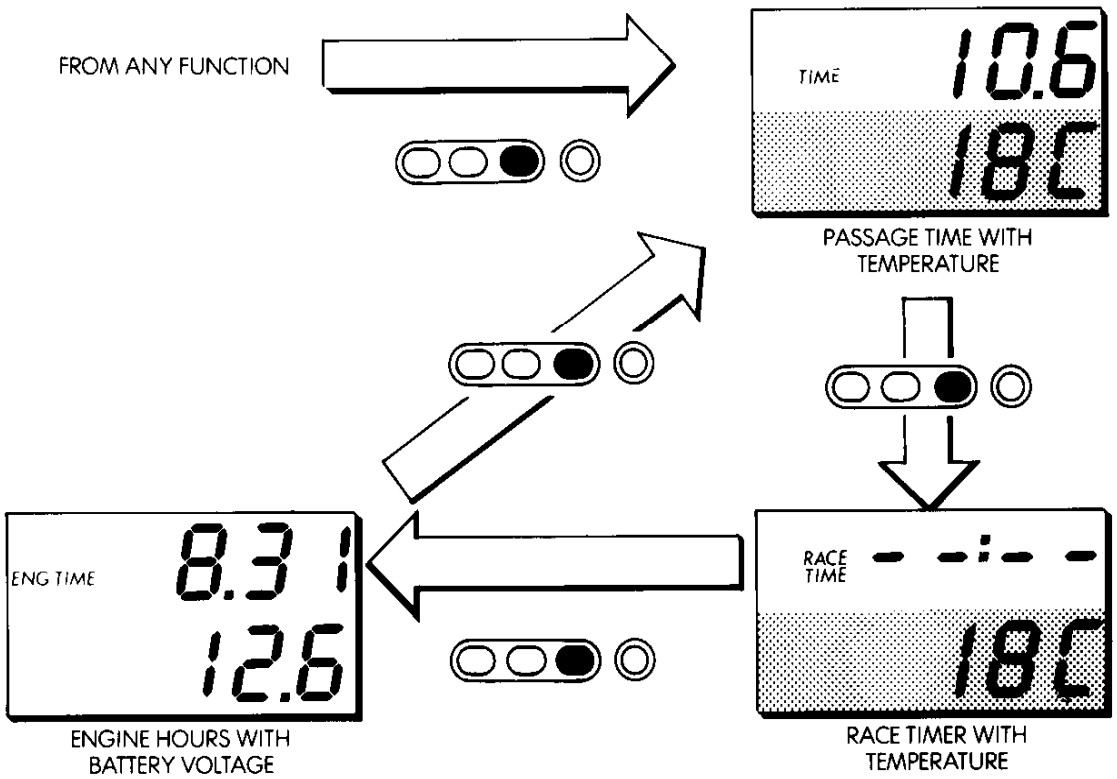


ALTER DEPTH ALARM VALUES

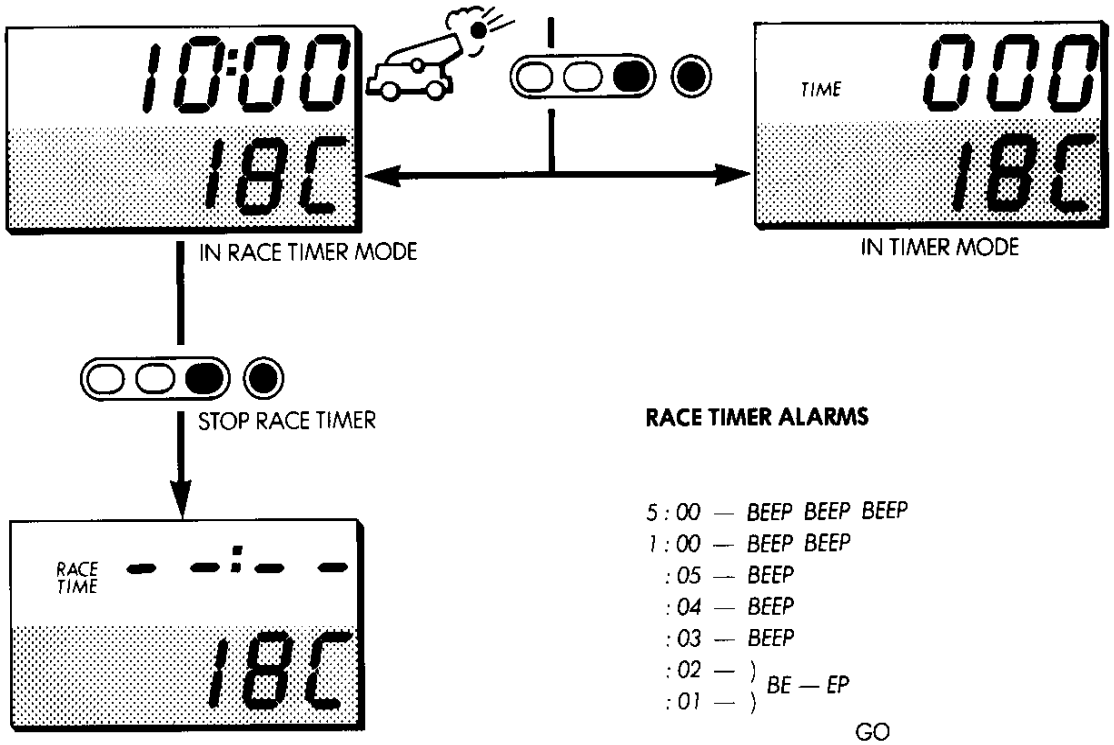




TIMER FUNCTIONS



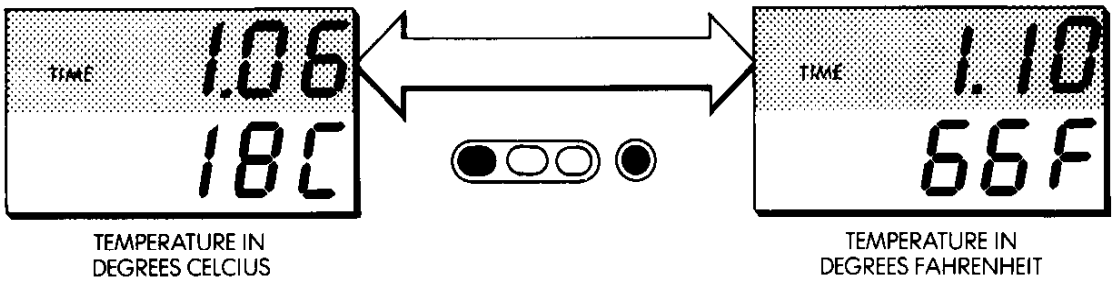
RESETTING TIMERS



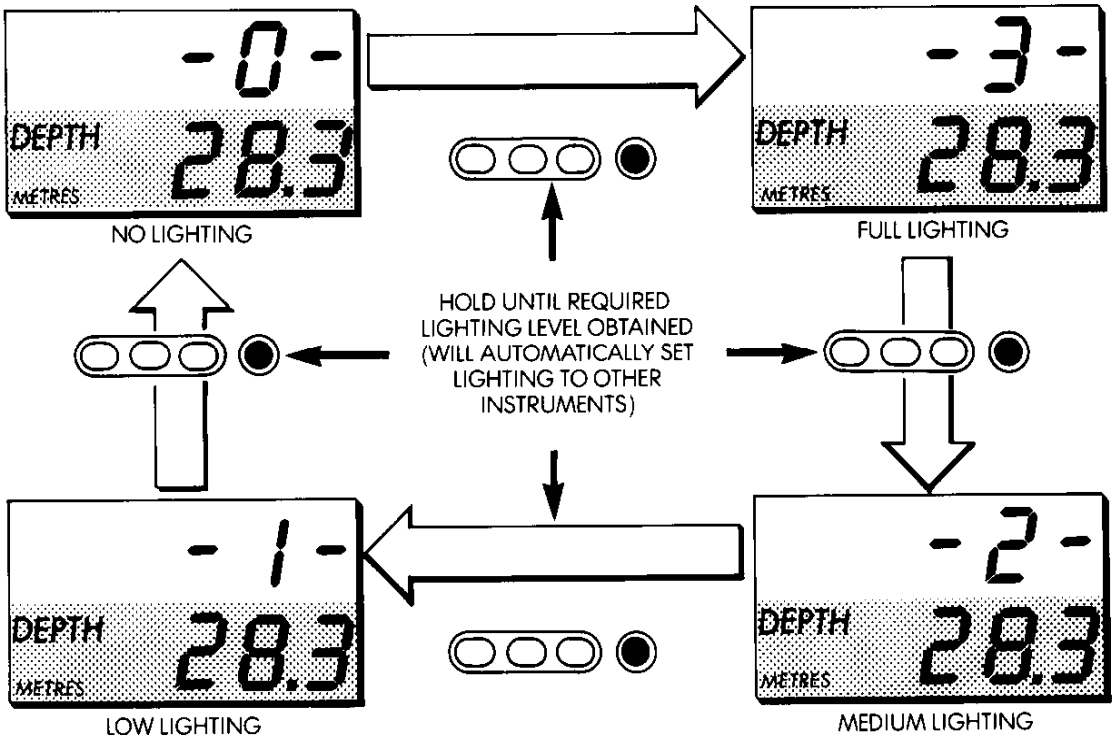
RACE TIMER ALARMS

5 : 00 — BEEP BEEP BEEP
1 : 00 — BEEP BEEP
: 05 — BEEP
: 04 — BEEP
: 03 — BEEP
: 02 —) BE — EP
: 01 —)
GO

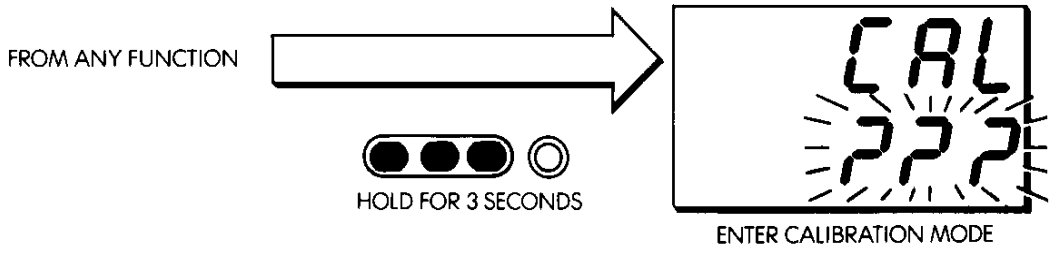
TEMPERATURE CONVERSION

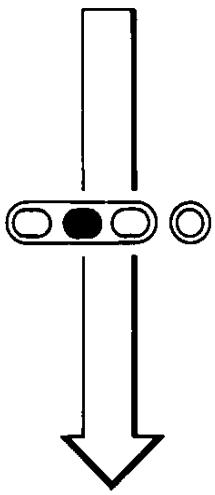


LIGHTS



CALIBRATION MODE

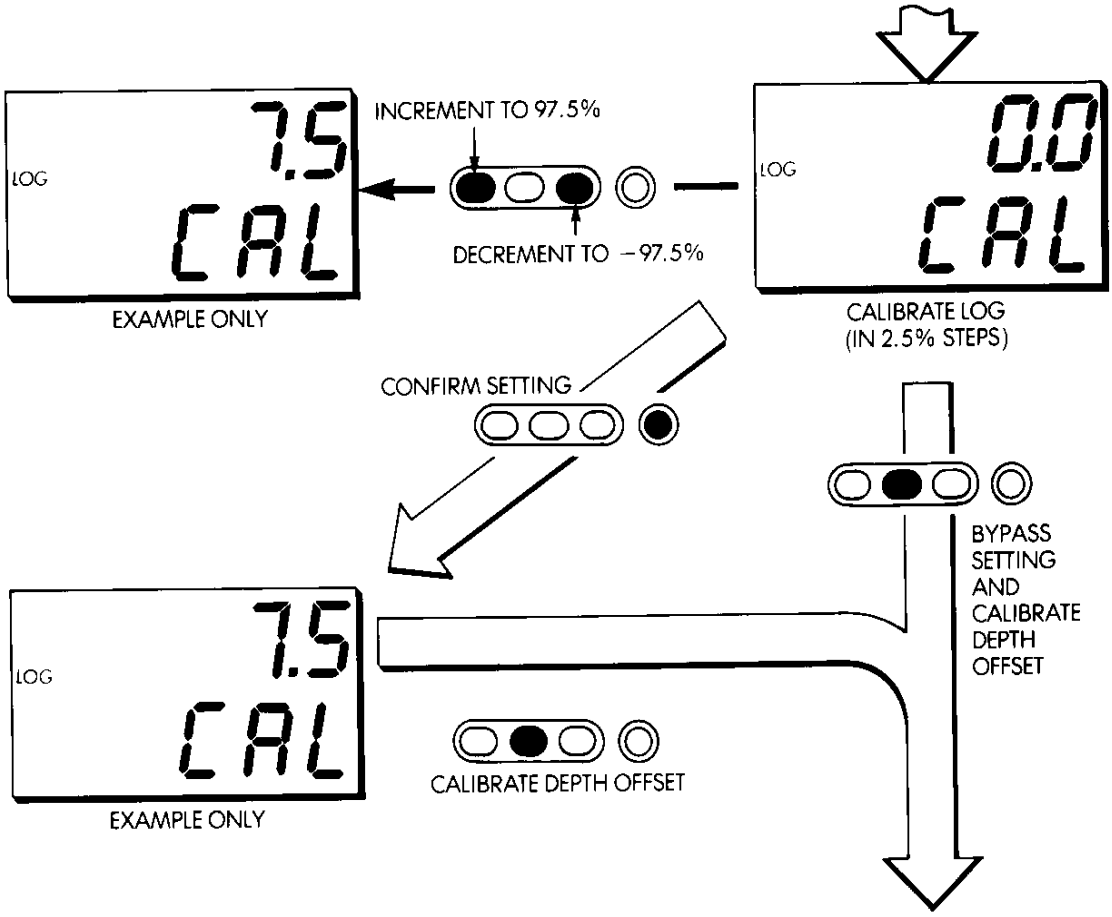


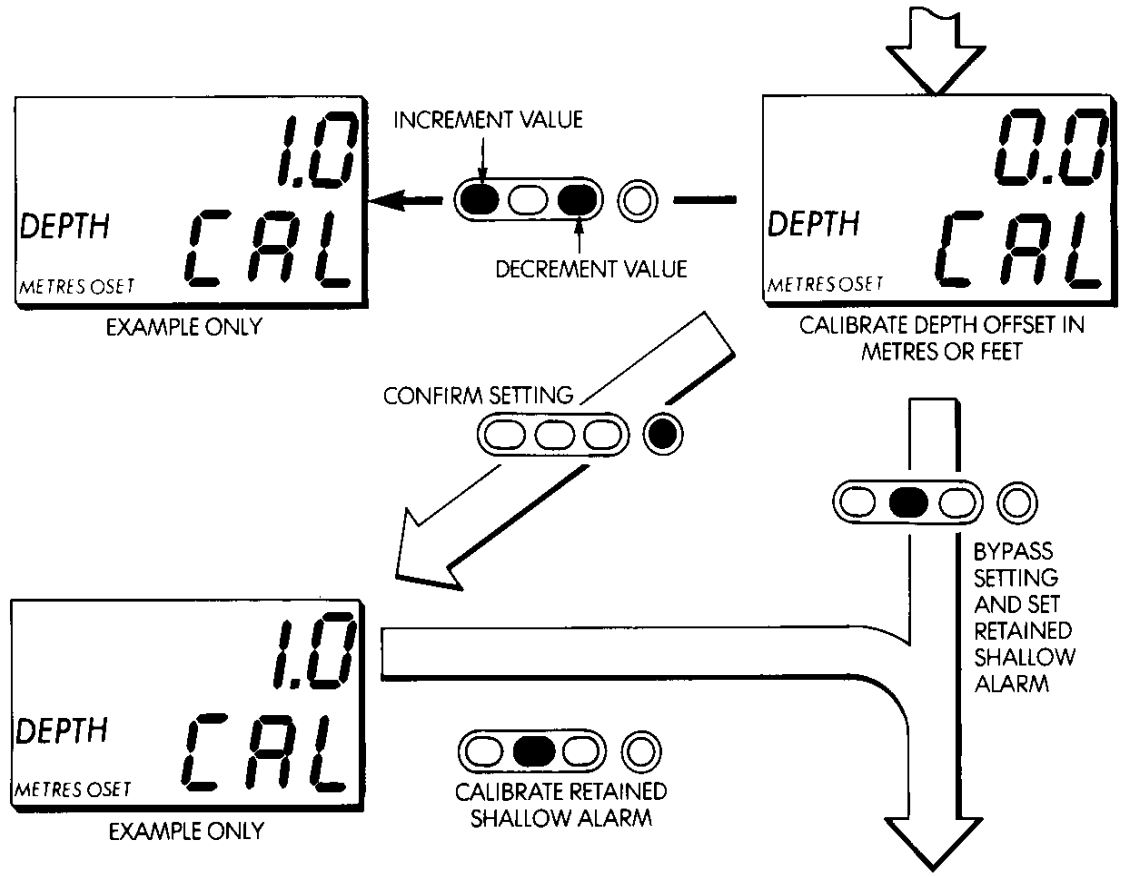


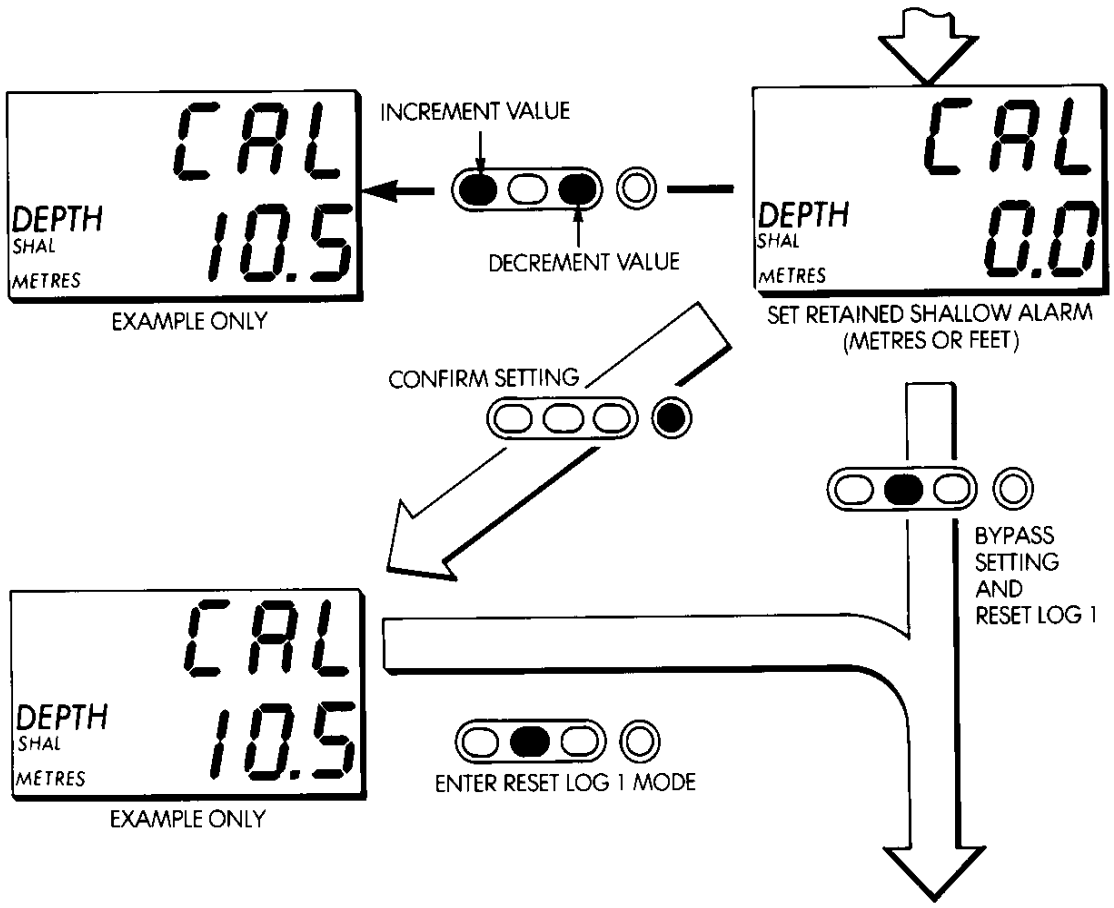
NOTES ON CALIBRATION

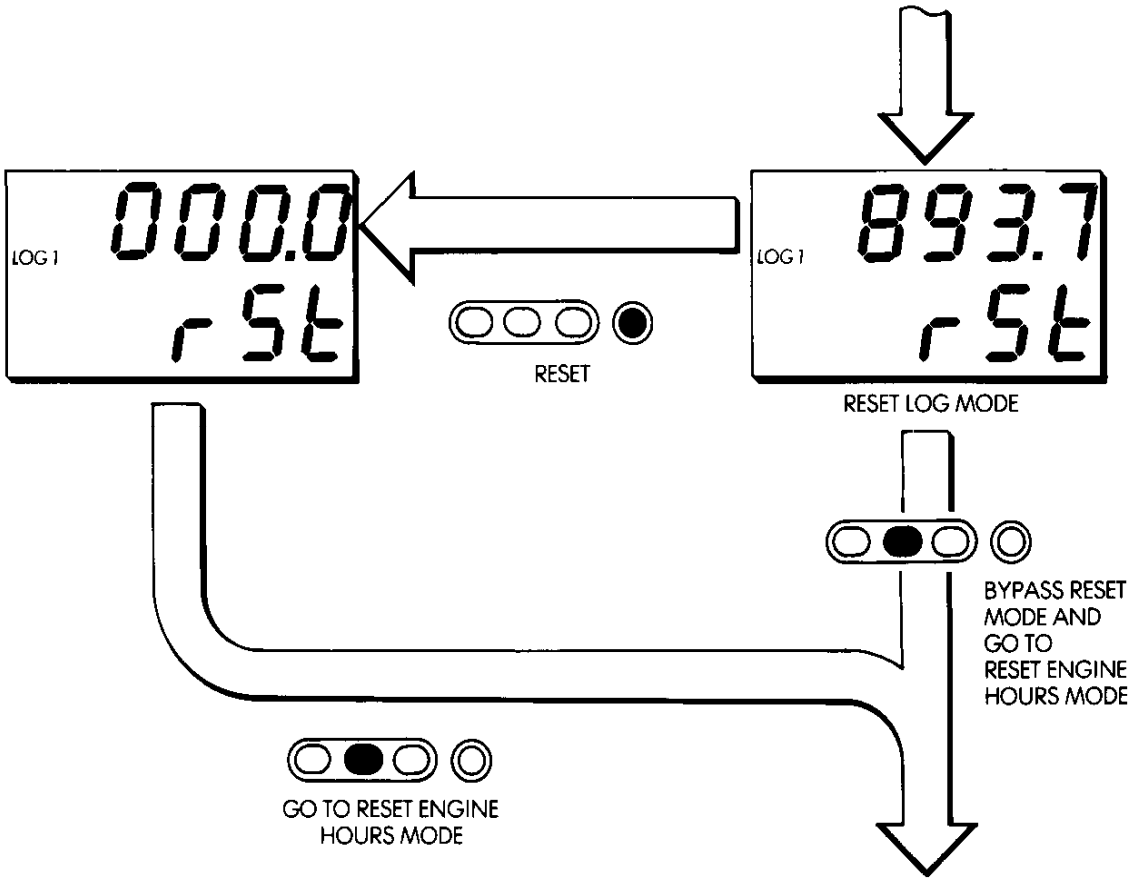
a) THE CALIBRATION MODE MAY BE EXITED AT ANY POINT BY DEPRESSING THE 3 FUNCTION BUTTONS AT THE SAME TIME.

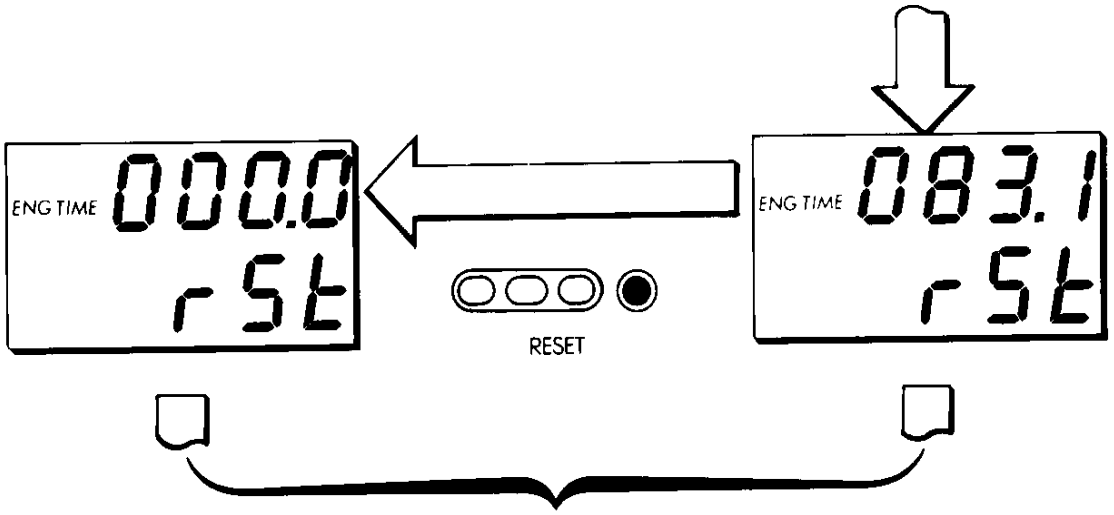
b) BY HOLDING DOWN EITHER THE INCREMENT OR DECREMENT KEYS VALUES MAY BE ALTERED RAPIDLY.


LOG
7.5
CAL
EXAMPLE ONLY
INCREMENT TO 97.5%
DECREMENT TO −97.5%
LOG
0.0
CAL
CALIBRATE LOG
(IN 2.5% STEPS)
CONFIRM SETTING
BYPASS
SETTING
AND
CALIBRATE
DEPTH
OFFSET
LOG
7.5
CAL
EXAMPLE ONLY
CALIBRATE DEPTH OFFSET

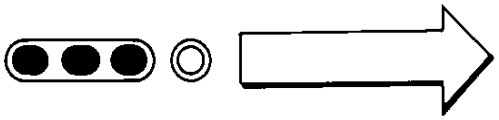

DEPTH
METRES OSET
1.0
CAL
EXAMPLE ONLY
INCREMENT VALUE
DECREMENT VALUE
DEPTH
METRES OSET
0.0
CAL
CALIBRATE DEPTH OFFSET IN
METRES OR FEET
CONFIRM SETTING
BYPASS
SETTING
AND SET
RETAINED
SHALLOW
ALARM
DEPTH
METRES OSET
1.0
CAL
EXAMPLE ONLY
CALIBRATE RETAINED
SHALLOW ALARM


CAL
DEPTH
SHAL
METRES
10.5
EXAMPLE ONLY
INCREMENT VALUE
DECREMENT VALUE
CAL
DEPTH
SHAL
METRES
0.0
SET RETAINED SHALLOW ALARM
(METRES OR FEET)
CONFIRM SETTING
BYPASS
SETTING
AND
RESET LOG 1
CAL
DEPTH
SHAL
METRES
10.5
EXAMPLE ONLY
ENTER RESET LOG 1 MODE

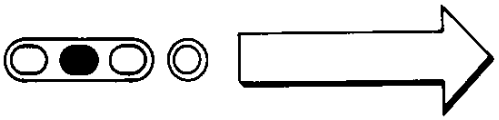

LOG 1
000.0
rSt
LOG 1
893.7
rSt
RESET
RESET LOG MODE
BYPASS RESET
MODE AND
GO TO
RESET ENGINE
HOURS MODE
GO TO RESET ENGINE
HOURS MODE



AT THIS POINT THE USER MAY EXIT BACK TO THE ORIGINAL FUNCTION, OR MAY REVERT BACK TO CALIBRATE LOG MODE THUS:



EXIT TO FUNCTIONS



RETURN TO CALIBRATE LOG MODE

6. OPERATIONAL CHECKLIST & TROUBLE SHOOTING GUIDE

Stowe instruments are carefully tested and proven before shipment. However, installation conditions and procedures (and very occasionally failures of components within the instruments) can cause difficulties and the following check list will direct the user to the source and remedy.

For additional assistance call your local agent listed at the rear of the manual.

CONDITION	PROBABLE CAUSE	ACTION
All Repeaters have blank LCD displays	● No 12V power supply	Check Supply Check wiring Check 5A fuse in Databox. Return Databox for service.
All Repeater LCDs show bars	● No information from Databox	Check wiring from Databox to Repeaters, particularly Green and White wires. Return Databox for service.
One Repeater has blank display or bars	● Faulty Repeater	Check wiring at rear of Repeater. Return Repeater for service.
Log, Distance and Boat Speed too low to be brought into calibration	● Dirty paddle or hull ● Hull form produces exceptionally low water speed over paddle	Clean paddle and hull as required.

CONDITION	PROBABLE CAUSE	ACTION
Distance data jumbled after switch on	● Low battery voltage or poor connection	Check battery voltage and connections. Temporarily wire direct to battery if voltage OK but problem persists.

DEMONSTRATION MODE

The Demonstration Mode may be used as a basic check of individual repeaters, but is not meant as a check of the data inputs from the Databox.

TRANSDUCERS

Refer to Databox manual for trouble shooting the system transducers.

7. CARE AND MAINTENANCE OF INSTRUMENT HEAD

The instrument head will under normal use require little maintenance as the cases are made from high impact material (polycarbonate) to withstand the rigours of an exposed cockpit. It is important to avoid using chemical cleaners and hydrocarbons such as diesel, petrol etc.
If the instrument requires any form of cleaning, use fresh water and a mild soap solution (not a detergent).

It is advisable at the start of each season to check all connections to the instrument head and cover with silicone grease, vaseline or WD40. The dessicant pack at the rear of the instrument above the terminal block should be removed and dried if signs of condensation appear on the instrument glass. This can be achieved by partially removing the M3 screw and pulling on the screw. The pack can then be dried by placing in a warm place for 24 hours. Do not use a gas oven for this purpose.

8. REMOVAL OF THE INSTRUMENT

To remove the instrument head, the outer cover must first be removed. This can be done by squeezing the instrument sides between finger and thumb and applying an upward pressure. At the same time place a wide bladed screwdriver between the bulkhead or panel and the cover, and gently rotate. Then remove the four fixing screws securing the head in place, and very gently lever off the head.