| 49898 | Instrument Serial Number |
|----------------|--------------------------|
| 500kHz Neptune | Sensor Type |
| 100m | Altimeter Range (m) |
| 41409 | Certificate Number |

Stage 1

Test the assembled altimeter in a body of water to ensure a signal is recieved at the minimum range. Taking direct readings from the unit immerse the head till it is roughly 0.1m from the bottom, readings should come through - if not then the signal is being saturated and there is a problem

To inhibit spurious readings set using:

#226;40

| | Pass/Fail |
|-----------------------------|-----------|
| Bench Test Min Range < 0.1m | Pass |

Stage 2

Using a mini SVS or similar, measure the average sound velocity for the water in the tow tank and input the value in the cell below.

| E-44 000 | 1 400 000 |
|-----------------|-----------|
| IEnter the SOS | 1483 968 |
| =:ito: tiio 000 | 1 400,000 |

Input SOS value to the altimeter using:

#830;1483.9680

Stage 3

Fit the altimeter into the calibration fixture and lower the assembly into the tank till it is about 0.5m down facing the far end of the tow tank and clamp in place. Using the distance markers on the wall align the front edge of the trolley with the datum line to set the front of the altimeter at stated distance from the wall.

| | To determine the Range C | Offset |
|------------|--------------------------|-------------------|
| Distance m | Measured Range m | Measured Offset m |
| 1 | 1.022 | -0.022 |

| Stage 4: Enter the Offset Correction | |
|--------------------------------------|--|
| #828;-0.0220 | |

| Stage 5 - Range Check after Offset Correction | | | | | | | | | | | |
|-----------------------------------------------|------------------|-------------------|-----------|--|--|--|--|--|--|--|--|
| Distance m | Measured Range m | Measured Offset m | Pass/Fail | | | | | | | | |
| 1 | 0.997 | 0.003 | Pass | | | | | | | | |
| 5 | 5.002 | -0.002 | Pass | | | | | | | | |

| Stage 6: Reset th | e SOS |
|-------------------|-------|
| #830;1500 | |

| Stage 7: Reset m | aximum range to 105m | Stage 8: Reset spurious range |
|------------------|----------------------|-------------------------------|
| #823;105 | (500kHz units) | #226;0 |

| Calibrated by: | J.Harper | Date: | 31/03/2015 |
|----------------|----------|-------|------------|
| | | | |



This document certifies that the instrument detailed below has been calibrated according to Valeport Limited's Standard Procedures, using equipment with calibrations traceable to UKAS or National Standards.

Calibration Certificate Number:

41409

Instrument Type:

Altimeter

Instrument Serial Number:

49898

Calibrated By:

L.Bicknell

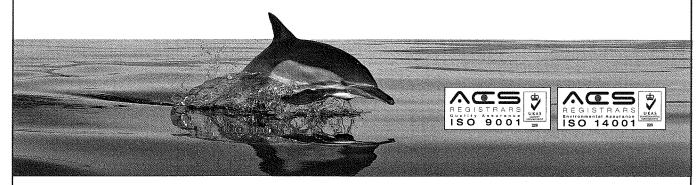
Date:

30/03/2015

Signed:

1/5

Full details of the results from the calibration procedure applied to each fitted sensor are available, on request, via email. This summary certificate should be kept with the instrument.



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| Instrument type | Altimeter |
|--------------------------|-----------|
| Serial number | 49898 |
| Baud rate set ex factory | 115200 |

| Calibration History: | Certificate | Date |
|----------------------|-------------|------------|
| | 41409 | 30/03/2015 |
| | 7 | |
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| System | Or | rigina | l Manufac | ture | | Modification Modification | | | | | Modification | | | | | |
|---------------------|----------------------------|--------|------------------|---------------------|----------------------------|---------------------------|------------------|---------------------|----------------------------|-----|------------------|---------------------|----------------------------|-----|------------------|---------------------|
| Components | Part (Blank=Not Filted) | lss | Serial Number | Range / Firmware | Part (Blank=Not Fitted) | lss | Serial Number | Range i Firmware | Part (Blank=Not Fitted) | iss | Serial Number | Range / Firmware | Part (Blank=Not Fitted) | lss | Serial Number | Range / Firmware |
| PSU board | 0430502 | С | 109419 | | | | | | | | | | | | | |
| Micro board | 0430501 | С | 111648 | ACTEL 0430707 | | | | | | | | | | | | |
| 27 | | | | ATMEL 0430704A12 | | | | | | | | - | | | | |
| Transducer Assembly | 500kHz Neptune | | 29792 | 100m | | | | | | | | | | | | |
| Pressure sensor | PAA - 10LX | | N/A | N/A | | | | | | | | | | | | |
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| | Name | | | P Tremlett | | | | | Name | | | | Name | | | |
| | Date | 1 | | 30/03/2015 | Date | Γ | | | Date | | | | Date | Г | | |
| | Signed | | | | Signed | | | | Signed | | | | Signed | | | |
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