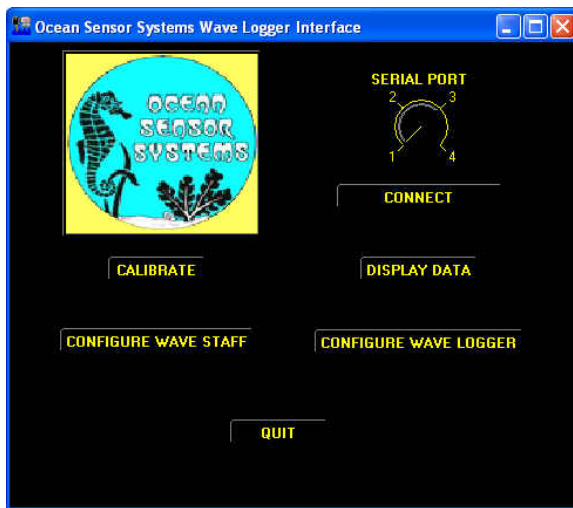


Wave Staff and Wave Staff III Calibration Procedure

Every Staff and Wave Staff Unit has a variance in characteristics. A calibration must be performed after any two are assembled together. If the Staff is changed, without recalibration, the accuracy of the calibration could be off as much as 10%.

To calibrate the assembled unit the following steps must be performed:

1. Connected the Wave Staff to a PC using a serial cable.
2. Start the Wave Staff Interface Software on the PC. An Interface Program may be downloaded from our web site www.oceansensorsystems.com.

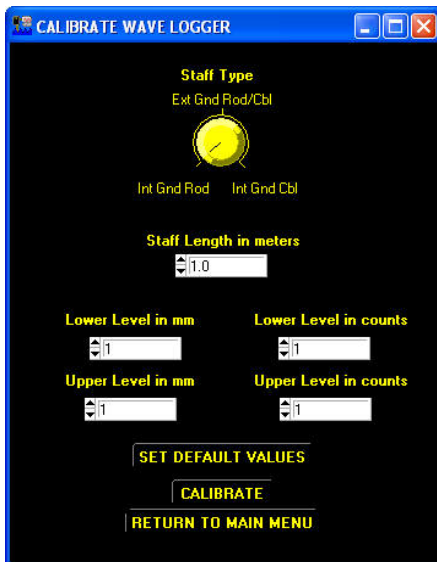


3. Select the serial port (typically #1) then click the CONNECT button. You should see a new window stating that you have successfully connected.
4. Now return to the first window and click on the CALIBRATE button. A Calibrate Wave Staff window should appear. In the new window, enter the staff length of the unit you are calibrating and the staff Type.

For Coaxial Rod Staff select Int Gnd Rod - This type does not require a separate ground wire in the water. It is used on Wave Staff III and Wave Logger III

For Coaxial Cable Staffs select Int Gnd Cbl - This type does not require a separate ground wire in the water. It is used on Wave Staff III and Wave Logger III.

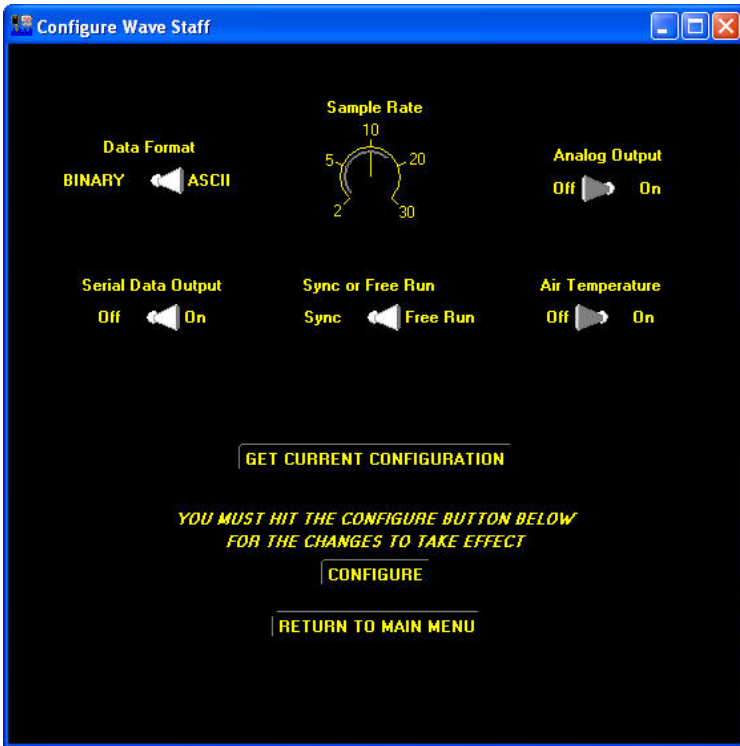
For Rod and Cable Staff select Ext Gnd Rod/Cbl – The type requires a separate ground wire in the water. It is used on Wave Staff and Wave Logger.



5. Then click on the SET DEFAULT VALUES button. You should see a SUCCESS window. . Note SET DEFAULT VALUES should be skipped if the unit was previously (or 2nd pass) calibrated with the same Staff Type and Staff Length.



6. Return to the start window and click the CONFIGURE button. The unit will need to be configured to take two measurements for the calibration.



Make sure the settings are configured:

Set Data Format to ASCII

Set Water Temperature to off

Set Serial Data Output to On

Set Sync or Free Run to Free Run

Now click the CONFIGURE button. You should see a SUCCESS window.

7. Return to the start window and click Display Data to view the data.



8. With a small piece of tape mark two points on the staff. Typically the 20% and 80% of the length, points. Note in some cases after the SET DEFAULT VALUES are select 20% and 50% points must first be used. Then the calibration can be repeated, without pressing the SET DEFAULT VALUES button, at 20% and 80% points.

9. Now take two readings at the marked locations in a convenient pool or pond. Be sure to have the ground stud connected to the water and keep the staff at least 6 to 12 inches from other objects. The data readings are the first 4 digits in the window marked "Data String From Serial Port".

9. . Now return to the first window and click on the CALIBRATE button. A Calibrate Wave Staff window should appear. In the new window enter the staff length of the unit again.

10. Enter Lower Level measurement point (20% typically) in mm and the Data measurement in counts.

11. Enter the High Level measurement point (80% typically) in mm and the Data measurement in counts.

Example: A 4 meter staff at 20% and 80 % would be 800mm / 850 counts for the lower measurement and 3200mm / 3010 counts for the higher measurement

12. Click the CALIBRATE button. You should see a SUCCESS window.

14. Now if you take the same two measurements again the data should be correct. Typically better than 0.1% however it depends on how accurate you were in taking the measurements. The object here is to be very accurate both times.

To convert the reading data to meters: multiply the Staff length in meters, times the reading, divided by 4095.

15. After you finish Calibrating the Unit you must remember to reconfigure the unit to your desired requirements.

Note: Also refer to the Wave Staff User Guide file which may be downloaded from our web site. www.oceansensorsystems.com.