

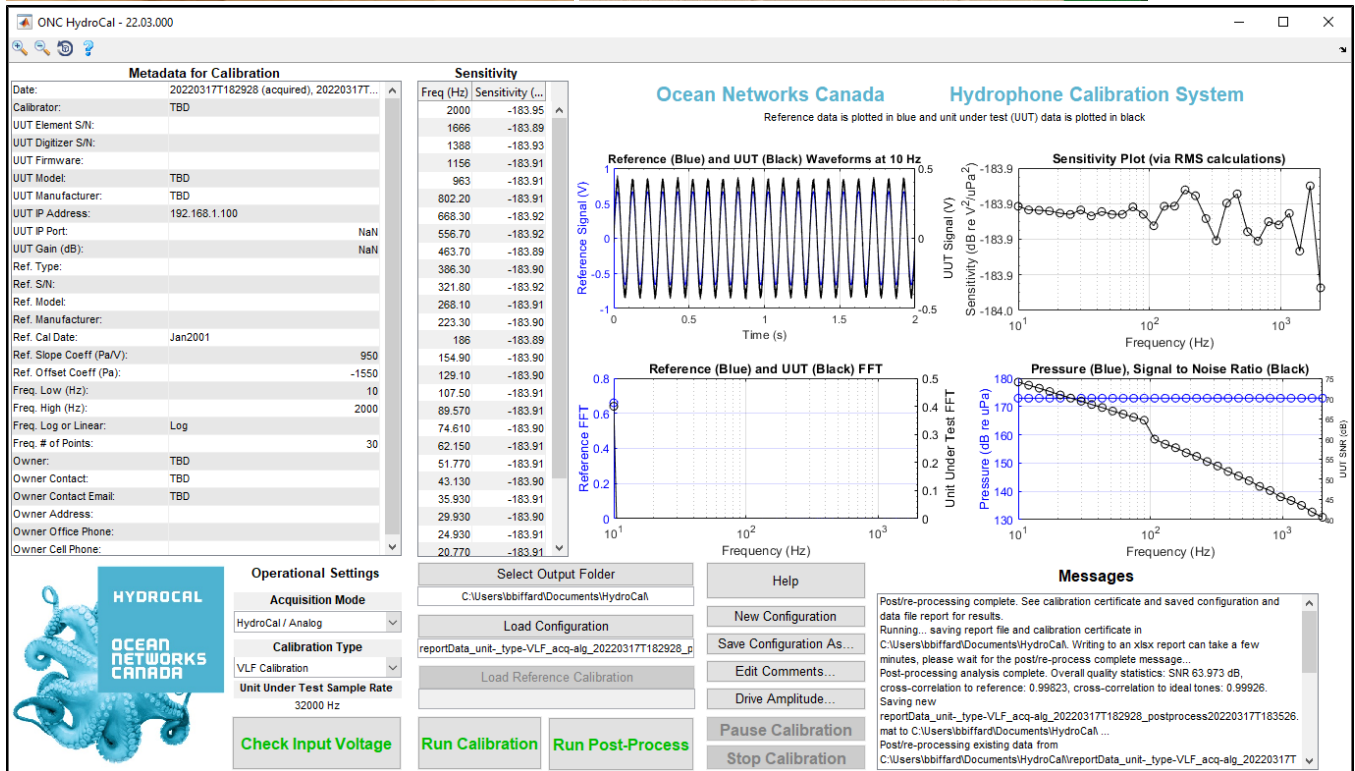
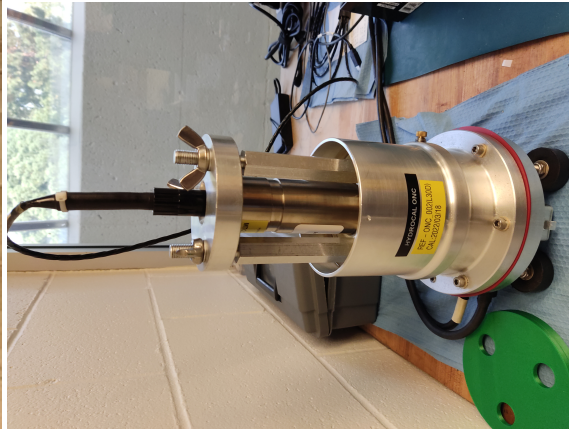
Hydrophone Calibration System

Introduction

Ocean Networks Canada's hydrophone calibration system, known as ONC HydroCal, generally consists of a hardware jig to position and hold the hydrophone under test along with reference sensors and sources, a data acquisition system and software to run the data acquisition, do the analysis and produce a calibration certificate. The goal is to robustly calibrate a hydrophone to facilitate observing in the ocean. Sound is the key mechanism for communication and interaction in the ocean. It can calibrate almost any hydrophone: analog or digital, low frequency (via a bench top rig) and high frequency (in-situ, live or offline).



Above: ONC HydroCal data acquisition system and very low frequency chamber. Photo credit: <https://www.instagram.com/p/BncHZWODH0j>. Below left: close up on the ONC HydroCal acquisition system. Below middle: close up on the bench-top very low frequency chamber. Below right: screen shot of the ONC HydroCal software.



Reference (Blue) and UUT (Black) Waveforms at 10 Hz

Sensitivity Plot (via RMS calculations)

Reference (Blue) and UUT (Black) FFT

Pressure (Blue), Signal to Noise Ratio (Black)

If you have a hydrophone, you need ONC HydroCal!

Contact Us! Ask for Ben Biffard (software) or Sergio Rico (hardware).

Software Support and Downloads

ONC HydroCal software is available for download. Users will give be provided with the latest version at the time of installation and a location from which to download new versions and updates. The latest version of the ONC HydroCal User Manual is available below.

The manual contains an extensive setup and troubleshooting guide. If all else fails, [contact us](#)!

ONC HydroCal User Manual



ONC-Hydrophone..._22_03_001.pdf

References

IEEE Oceans 2022 Hampton Roads (in press): [2022181018-Biffardetal_ONCHydroCal_Oceans2022.pdf](#)

UA2014 - 2nd International Conference and Exhibition on Underwater Acoustics: [UA2014_58.pdf](#)

UA2013 - 1st International Conference and Exhibition on Underwater Acoustics: [calibrating-low-frequency-digital-hydrophones.pdf](#)

Canada patent: <https://www.ic.gc.ca/opic-cipo/cpd/eng/patent/2847558/summary.html>

U.S. patent: <https://patents.justia.com/patent/9746585>

Internal Software Documentation

Main page: <https://internal.oceannetworks.ca/display/DS/HC+--+HydroCal%3A+Hydrophone+Calibration+System>

Release Notes:

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