Paros Configuration Verification Procedure

Procedure Number: 6.5.1.1.11
Created: November 5, 2009
Created By: Caleb Gostnell
Approved By: Tom Mero Chief, Engineering Division
Revised: Nathan Holcomb, February 6, 2017
Caleb Gostnell, October 7, 2021

1) **Title:** 6.5.1.1.11 Paros Configuration Verification Procedure

2) **Purpose:** To confirm that the Paros sensor is configured with the appropriate user coefficient, as well as obtain an archive record of the Paros configuration.

3) **Background/History:** There have been several instances of Paros sensor configuration file corruption over the past few years. The undesired changes in configuration parameters have resulted in improperly scaled data being ingested into the database. While the data have thus far all been recoverable, some of these instances have gone unnoticed for extended periods of time. For this reason, and to allow quality control checks to ensure that all sensors have been correctly configured it is desirable to periodically check the Paros configuration and to maintain an archive copy of the configuration file in the station folder on the server.

4) **Scope/Applicability:** This SOP primarily applies to the Field Operations Division (FOD) and the Engineering Division's (ED) Operational Engineering Team (OET). FOD personnel will be responsible for performing the described procedure and providing the Paros configuration file to OET. OET will be tasked with archiving the configuration file.

5) **Main Processes:** Connect directly to the Paros sensor and copy off the configuration file. Verify the user defined UF coefficient and contact the appropriate Instrument Lab if variances are encountered. Provide a copy of the configuration file as part of the station package delivered to OET.

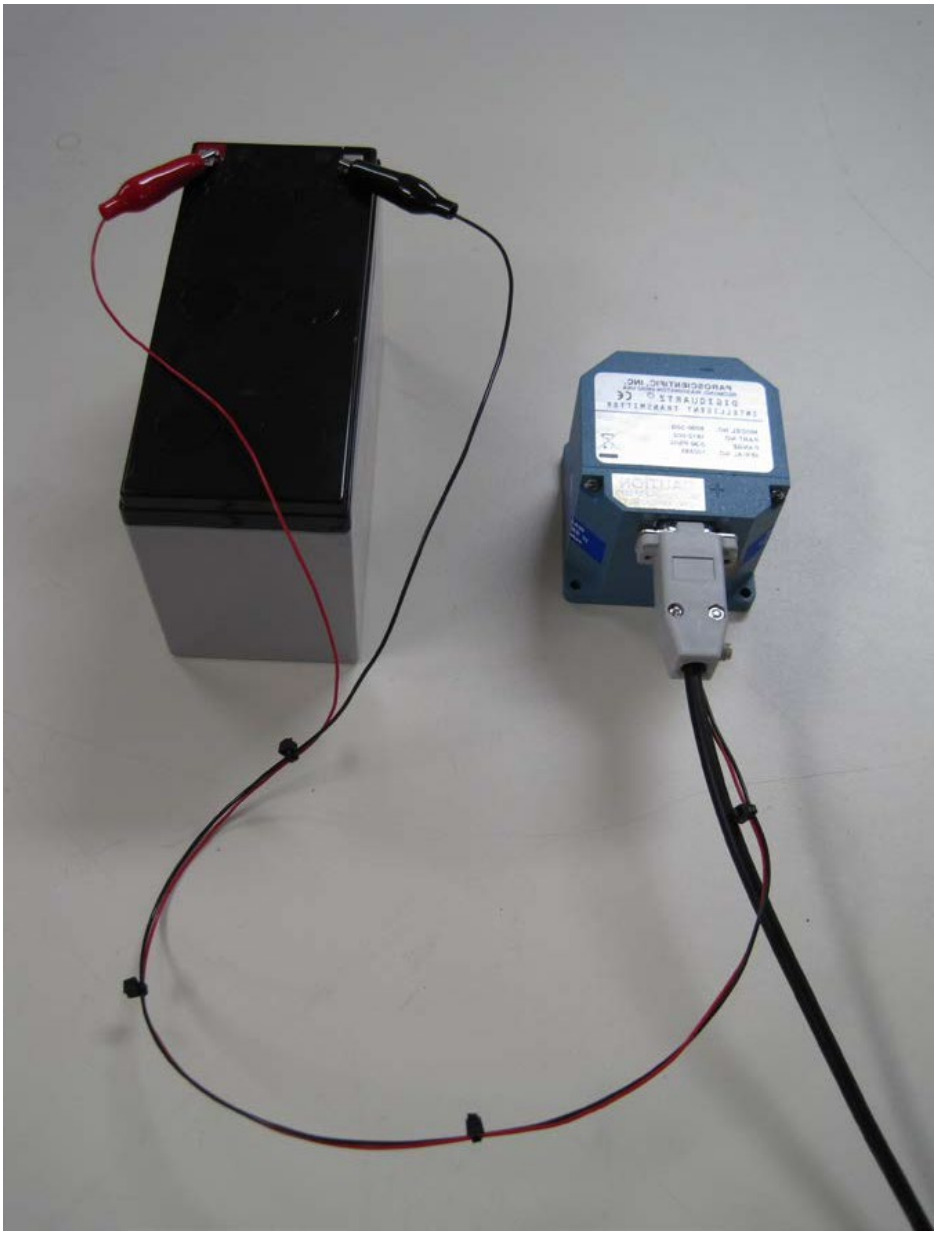
Software Installation:
Personnel should see their ISD or IT representative to have the Digiquartz Interactive 2.0 software installed on their computer.

Hardware Required:
Personnel should contact the Chesapeake or Seattle Instrument Lab for a custom built Paros cable or for a schematic of how to build one. An external power supply, +12VDC, is also required for this procedure.

6) **Detailed Sub-Processes/Checklists:** Use the following step-by-step procedure to obtain a copy of the Paros configuration file and verify the freshwater/saltwater coefficient:

Connecting to a Paros Senor:

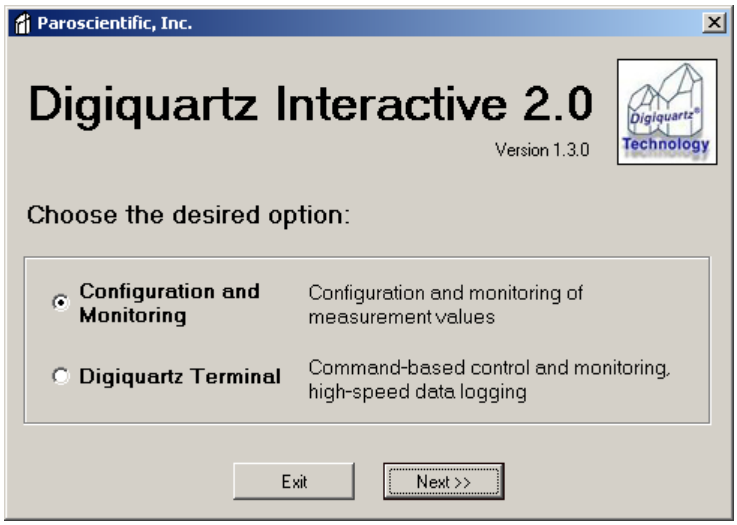
1) Connect the DB-9 end of the custom Paros cable to a computer serial port. Connect the other end of the custom cable to the DB-15 port on the Paros unit. Connect the alligator clips to the external power source, +12VDC, to enable communication.



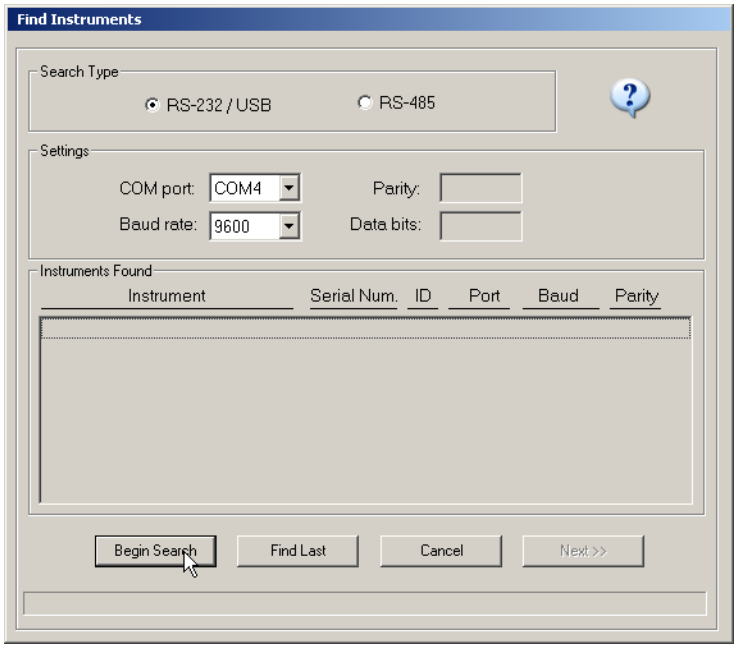
Opening and Logging into the Digiquartz Software:

2) Click on Digiquartz Interactive 2.0, which will open the program.

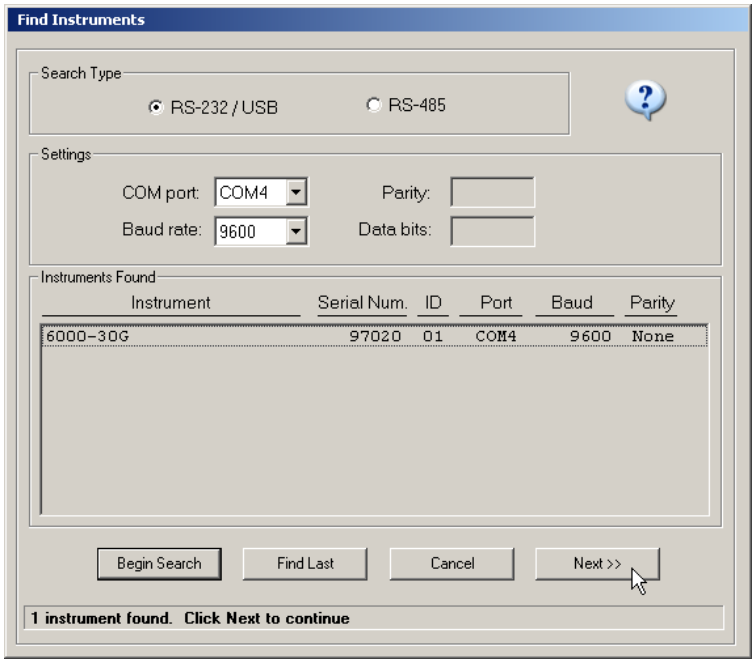
3) Select the Configuration and Monitoring Block, and then click on the block labeled Next>>.



4) Select RS-232/USB, COM4, and Baud Rate 9600 and then click on the block labeled Begin Search. The program will begin searching for the instrument connected to the computer.

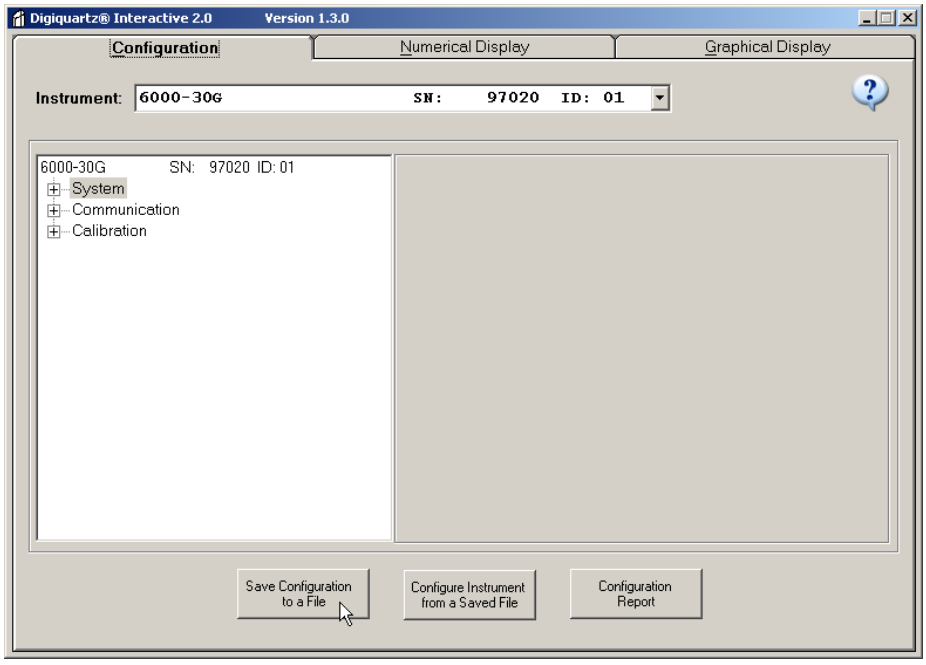


5) Once the instrument is located (it will be displayed under the Instrument Found block); click on the block labeled Next>>.

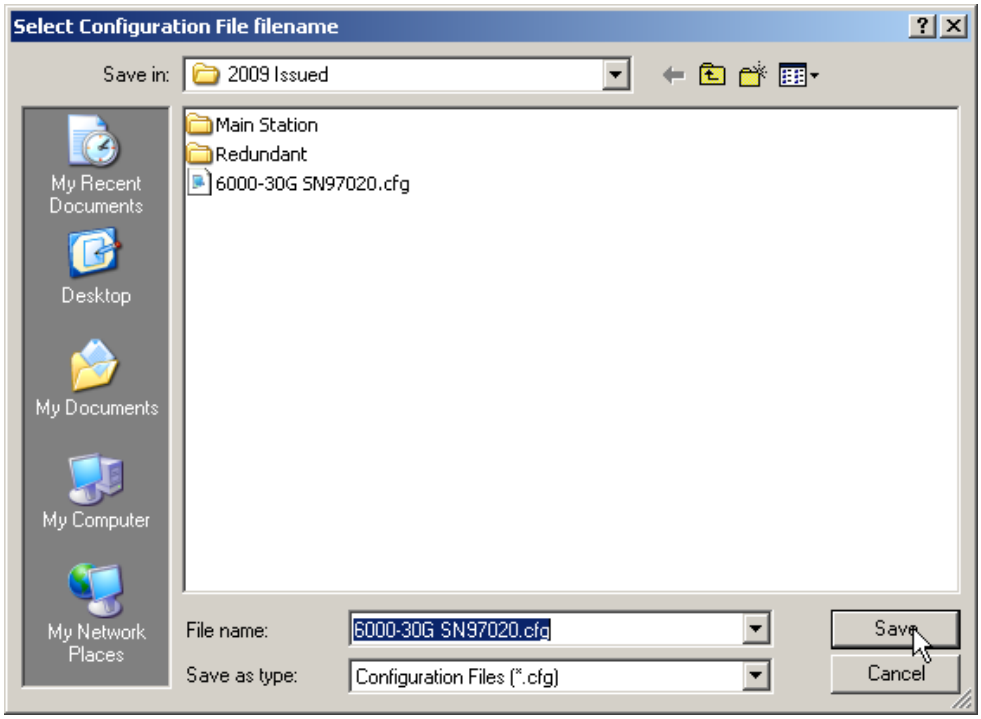


Exporting and Saving the Configuration File:

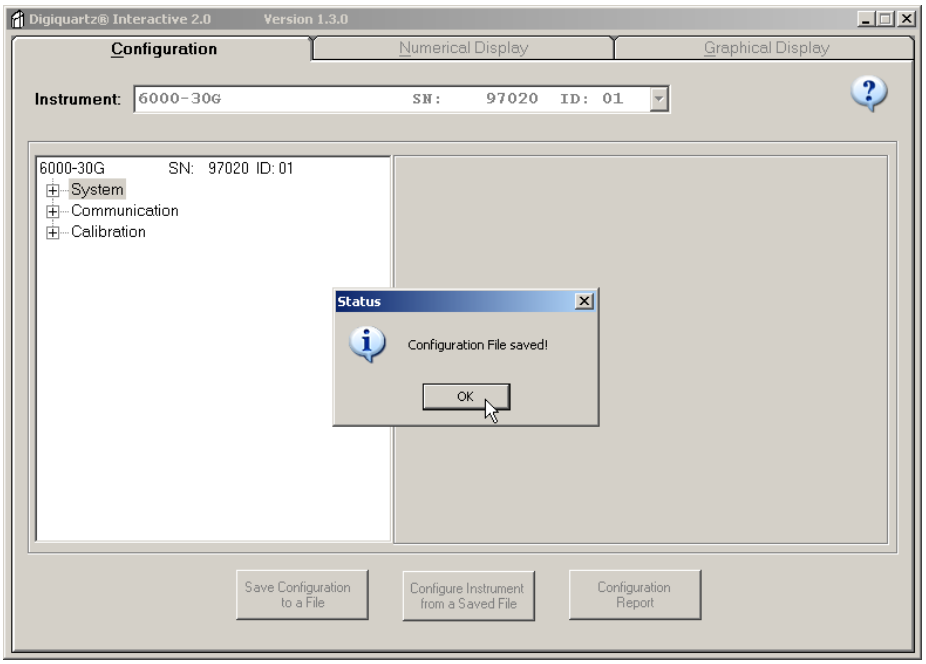
6) Now click on the Configuration tab. Next, click on the word System, located in the window. Then click on the block labeled Save Configuration to a File.



7) Use the generated default filename and extension; save the file to a known location on your computer.

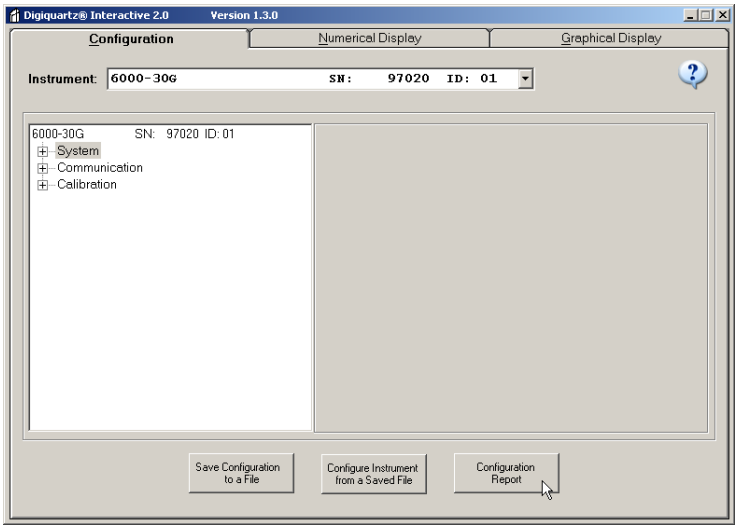


8) Once saved, a status box will pop up reading, "Configuration File saved!", click on the block labeled OK.

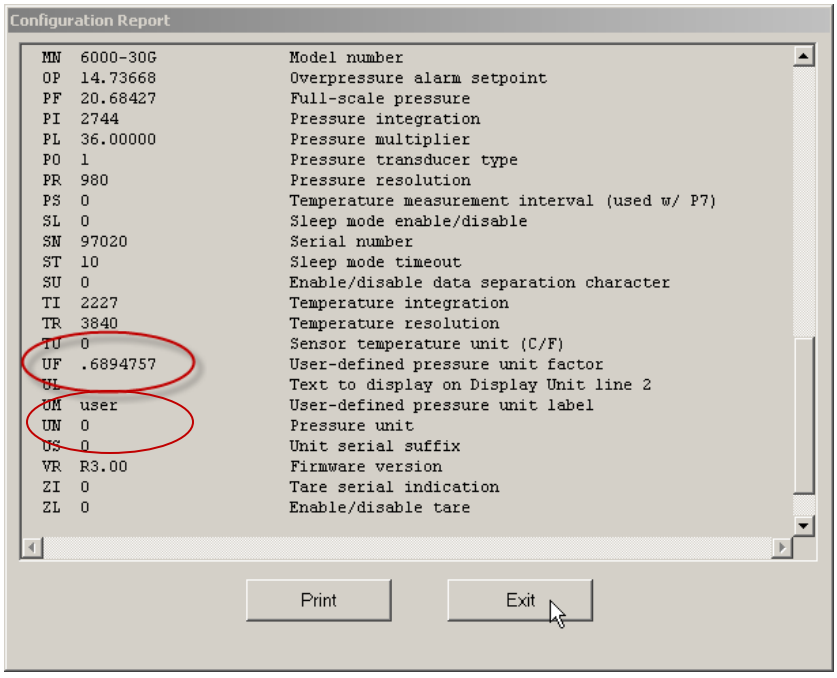


Verifying the User Coefficient in the Configuration File:

9) Now click on the block labeled Configuration Report.

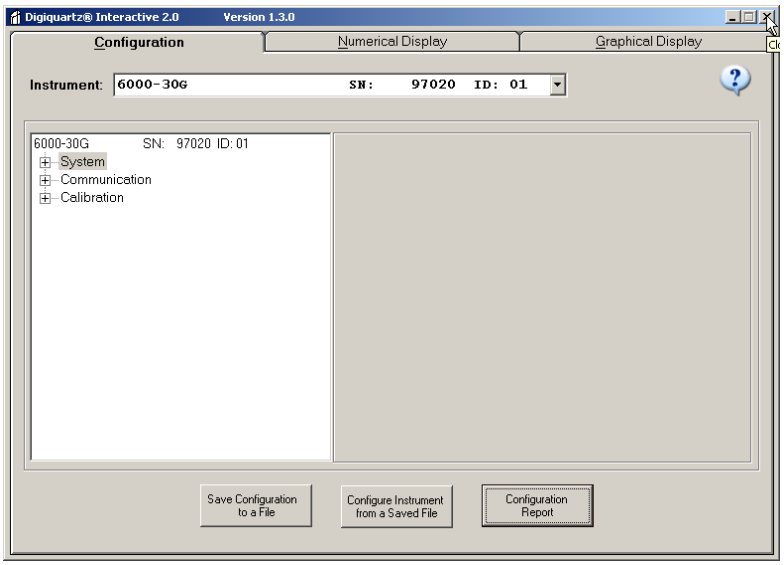


10) Scroll towards the bottom of the report and locate the UF (unit factor) value. Ensure that the value reads 0.6894757 for all deployments. **Ensure the UN (pressure unit) is set to 0.** Click the block labeled Exit. If either the UF or UN units have an incorrect value, please contact the Chesapeake or Seattle Instrument Lab for further guidance.

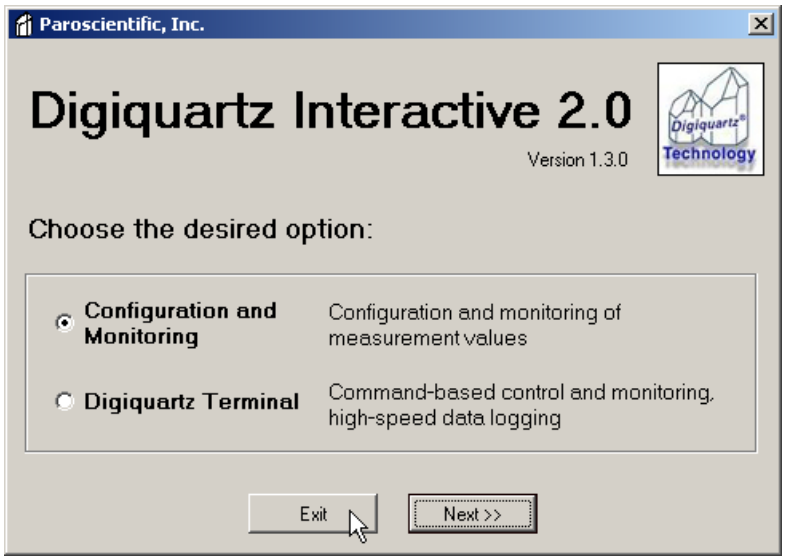


Exiting the Digiquartz software:

11) Close the window by clicking the x in the top right corner.



12) Click the Exit block.



13) Please submit the Paros sensor configuration files to the Operational Engineering Team along with the station package. The files should be placed in the FOD Downloads folder of the station package.

14) This completes the procedure.

7) **Quality Assurance/Control:** FOD is responsible for verifying that the Paros sensor parameters are configured correctly and submitting the configuration file to OET for archive. OET is tasked with ensuring that the Paros configuration file is submitted with the station package for all Paros stations.

8) **Management/Responsibility:** Field party lead shall ensure this procedure is followed at all stations with Paros sensors. If it is determined that there is a problem with a Paros configuration the appropriate Instrument Lab (Seattle or Chesapeake) shall be contacted (SIL@noaa.gov or CIL@noaa.gov). The Instrument Lab will then coordinate with OET on a course of action to repair or replace the corrupted sensor.

   The Instrument Lab Leads are responsible for the maintenance of this SOP.