EXO Sonde Configuration and Operation with HYPACK

BY JOE BURNETT

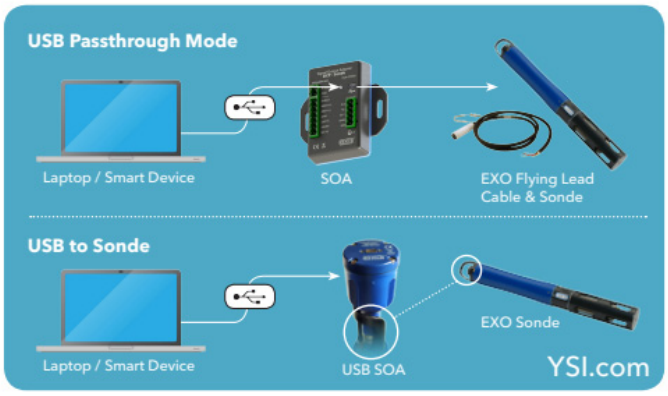
CONFIGURING THE EXO SONDE

For the EXO Sonde to work with HYPACK®, the '**Deployment Template**' must be configured to match the desired parameter list for sensors connected to the EXO. To do this, you will use the **KorEXO** software.

1. First, connect the EXO Sonde to a computer running the KorEXO software using the '**mini USB**' connection on one of the supplied Signal Output Adapters (**SOA**):

SOA-USB

SOA-DCP



USB connection to computer for KorEXO communication

IMPORTANT: The SOAs require 9-16 VDC power. The '**mini USB**' connection can supply the power needed to power the SOA's internal DC-DC converter.

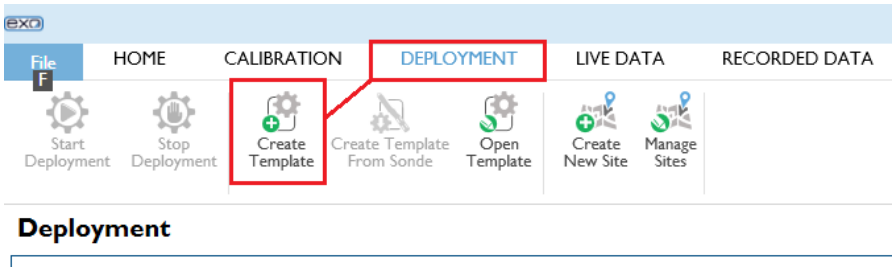
However, the '**mini USB**' connection **ONLY** 'communicates' with the KorEXO program. It is NOT used to transmit data to HYPACK®. You **MUST** use the SOA-DCP's '**RS-232**' connections to output data to HYPACK®, therefore, it is recommended that you just use SOA-DCP to connect to the computer, '**RS-232**' for HYPACK®, and '**mini USB**' for both power and KorEXO communication.

2. Start the **KorEXO** software.
3. [**Connect**] to the EXO.

Create **Deployment Template**

4. Click on **DEPLOYMENT** Tab.

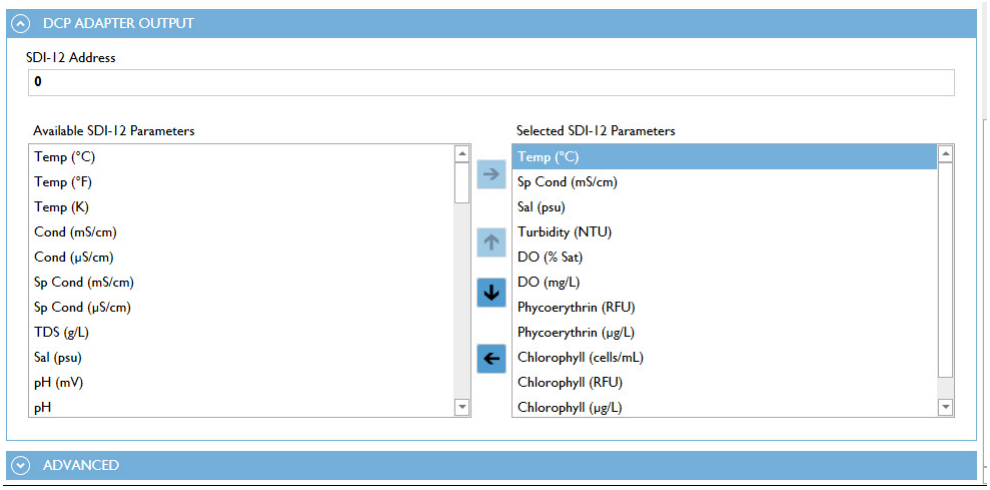
   a. **Create Template**.



   b. **DCP ADAPTER OUTPUT** - Click on 'down arrow' to expand SDI-12 Parameter list.

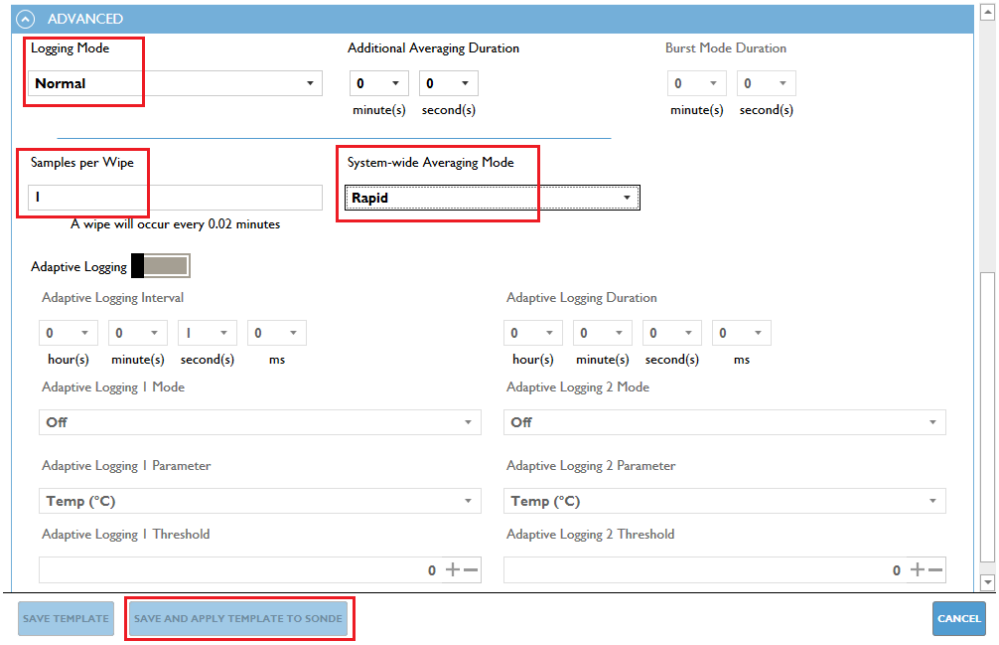
      i. 'Double-Click On', 'Highlight and Right Arrow', or 'Drag' the Parameter over to the '**Selected SDI-12 Parameters**' box.

      ii. Use the Up/Down arrows to change the order of the Parameters.



c. **ADVANCED** - Click on the 'down arrow' to expand.
   i. **Logging Mode** - '**Normal**'
   ii. **Samples per Wipe** - '**1**'
   iii. **System-wide Averaging Mode - 'Rapid**'
   iv. **Adaptive Logging** - Not Applicable

Deployment Template Configuration



d. Click [**SAVE AND APPLY TEMPLATE TO SONDE**].

5. When it asks if you would like to **Start Internal Logging** on the Sonde, select **'NO'**.

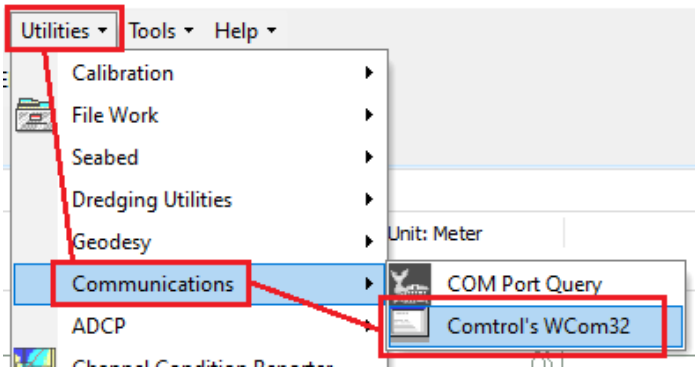
6. The EXO Sonde is now configured and ready to be deployed on the AUV.

NOTE: If a sensor is changed on the EXO Sonde, you **MUST** reconfigure the **Deployment Template** to match the new Sensor list to ensure the correct Parameters are recorded.

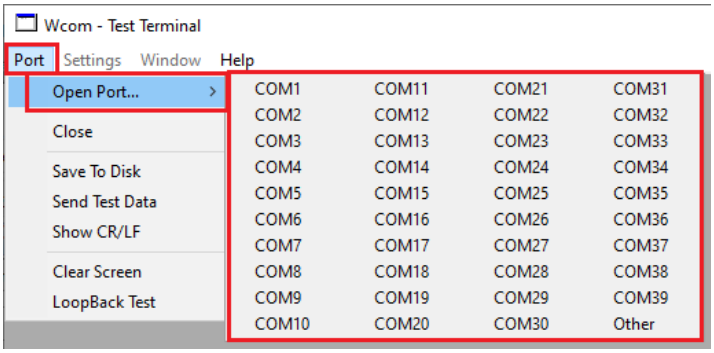
CONFIGURING THE SOA-DCP

The SOA-DCP will be used to output ASCII data from the EXO Sonde via the RS-232 connection on the adapter. This will allow the HYPACK® driver to read the incoming data.

1. Connect the EXO Sonde to the SOA-DCP.
2. Connect the RS-232 connection from the SOA-DCP to a computer.
3. Power the SOA-DCP by either using the 9-16 VDC inputs or the '**mini USB**' connection.
4. Within the HYPACK® Shell, **Utilities** > **Communications** > **Comtrol's WCom32**.

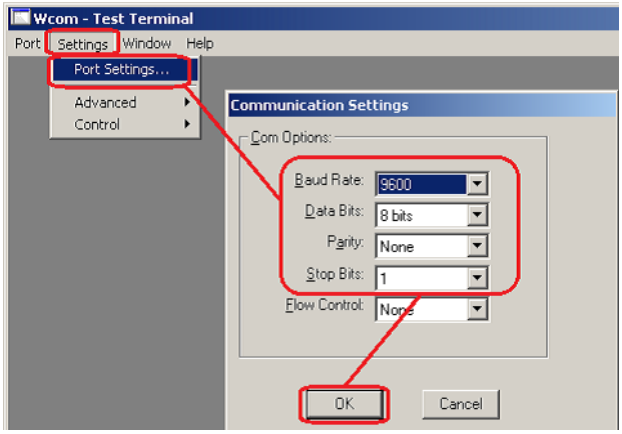


a. **Port** > **Open Port** and **Select the COM Port** where the SOA-DCP is connected.

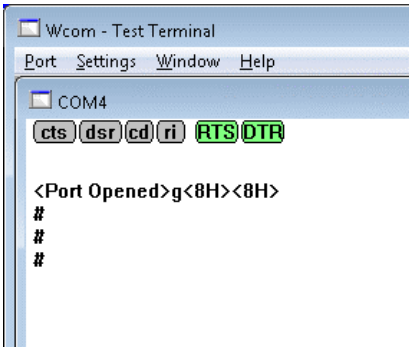


b. **Settings** > **Port Settings…** - Configure COM Port to match the SOA-DCP settings.

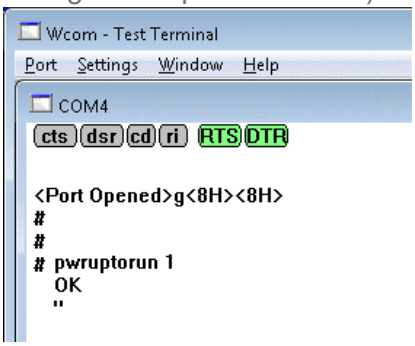
c. Click [**OK**].



5. **'Wake'** the SOA-DCP - Hit **'Enter'** a few times.
   a. You should receive a "**#**" after each 'Enter'.



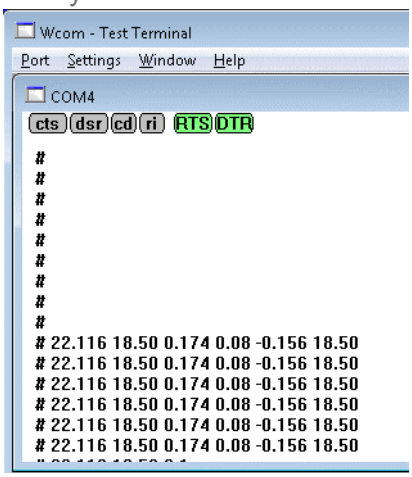
   b. Set the EXO to 'automatically' output data at 1 Hz when it Powers Up.
      i. Enter the following command, after the last '**#**'
      '**pwruptorun 1**' (You should get a response of "**OK**")



IMPORTANT: Once the '**pwruptorun 1**' command is sent to the EXO Sonde, it will be stored in the memory of the SOA-DCP, therefore, the Sonde will immediately start transmitting data upon '**Power Up**'.

6. With the WCOM32 Terminal Emulator still open, **Cycle the Power** on the SOA-DCP.

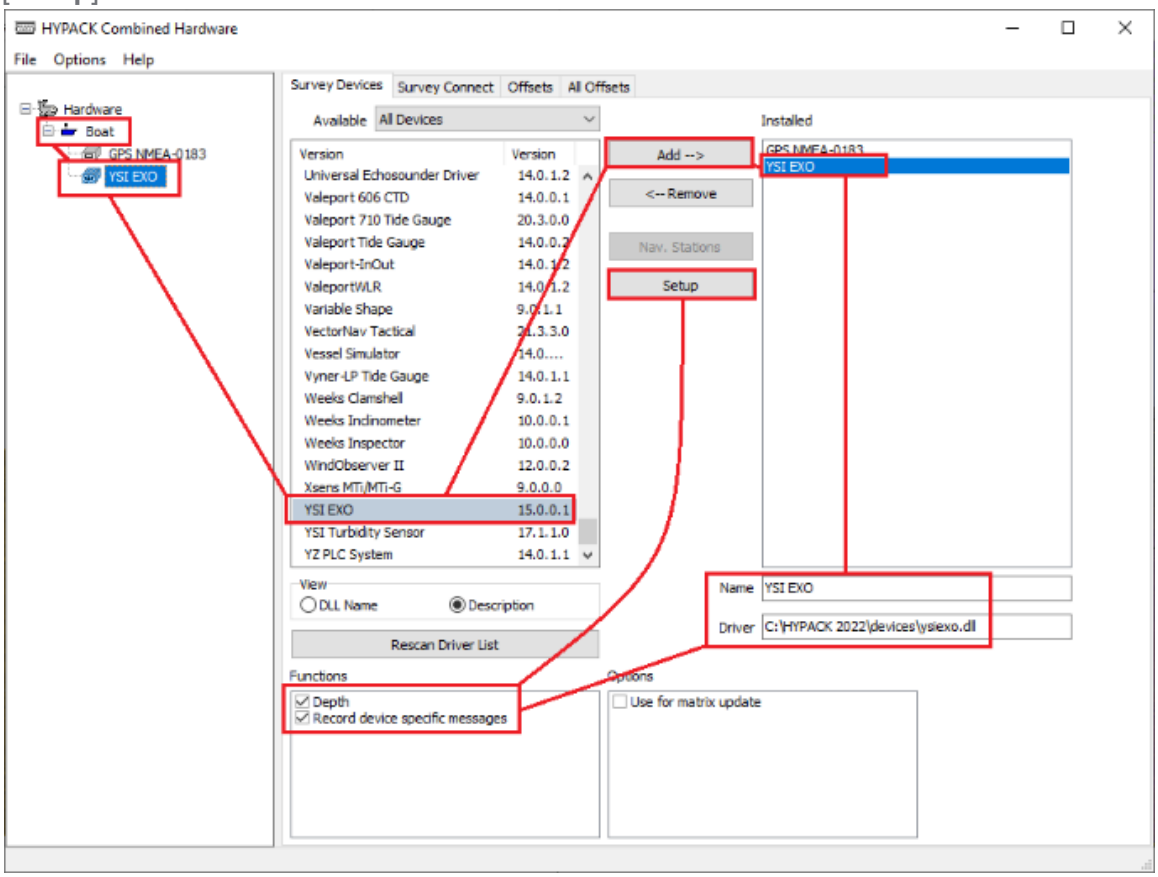
   After cycling power, there will be numerous "#" signs without data, then, data strings will begin streaming. The data strings will be 'tab delimited' by default.



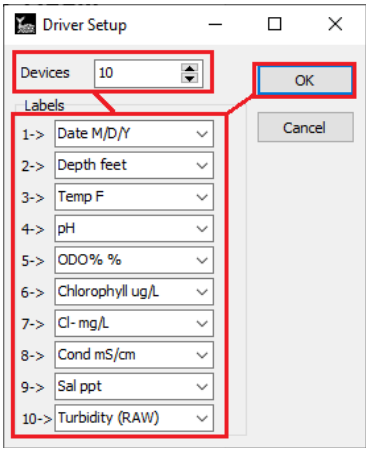
7. The SOA-DCP is now configured and ready to use with the **YSI EXO** (ysiexo.dll) driver in HYPACK®.
8. Close **WCom32**.

SETTING UP HYPACK® HARDWARE

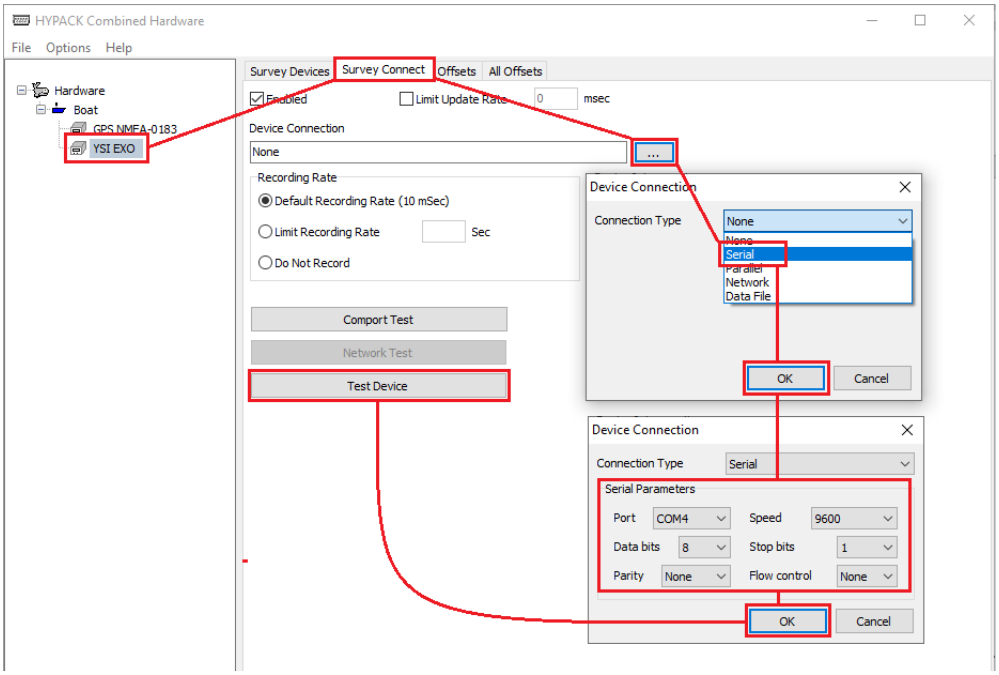
1. **Preparation** > **Hardware Setup** or click the hardware icon.
2. Under the '**Boat**' mobile, '**Survey Devices**' Tab, locate the **YSI EXO** (ysiexo.dll) driver and [**Add**-->] it to the **Installed** list.
3. Enable **ALL** Functions (**Depth** and **Record device specific messages**).
4. Click [**Setup**] button.



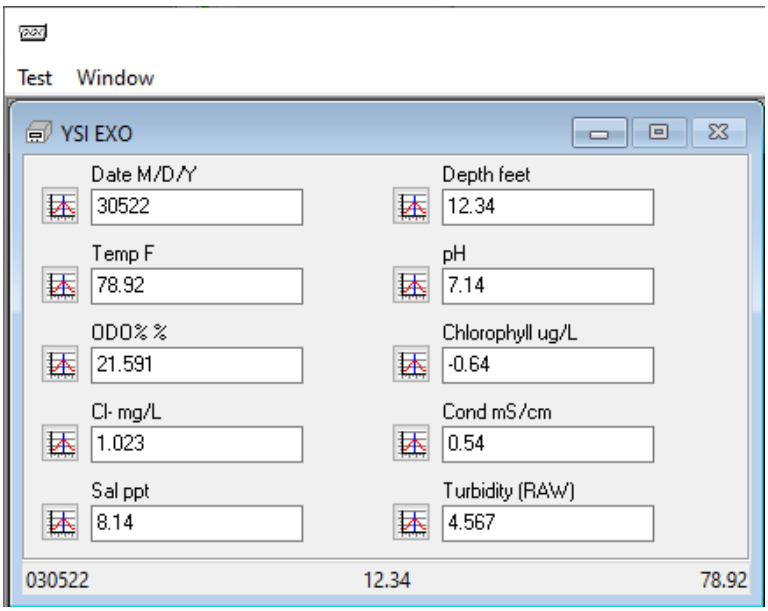
5. Select the **Number of Sensors (Devices)** on the Exo Sonde.
6. Modify the **Labels** to match the order in the **Deployment Template** in the **Parameters List** of the **KorEXO** program.
7. Click [**OK**].



8. With the **YSI EXO** device highlighted, click on the '**Survey Connect**' tab.
9. Click on the [**…**] button under **Device Connection**.
10. Select '**Serial**' and click [**OK**].
11. Configure the **COM Port** to match the EXO Sonde's output.
12. Click [**Test Device**].



13. Verify that the **Device Test** window is displaying the correct values for each Sensor (Parameter).



14. With the **YSI EXO** device highlighted, click on the '**Offsets**' tab.
15. Enter the Starboard, Forward, and Vertical Offsets of the EXO Sonde's location, as measured from the Vessel's Reference Point (Center of Mass).