Trouble-shooter

STAR : ODDI

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1. Connecting to the Recorder

In order to be able to communicate with the recorder, the three diodes on the communication box need to be lit. The red diode shows that power is fed from the power supply to the Communication Box. Yellow shows that SeaStar has made connection with the box and that the correct COM port has been selected. Green shows that the recorder is in a correct position for seeking connection.

1.1   No Red Light

1. Check if the power supply is plugged in.
2. Check if the polarity of the connector is correct. The plus should be on the inside and the minus on the outside, +O)-

1.2   No Yellow Light

1. Check if the correct recorder type has been selected under the **File**-**Recorder Type** menu.
2. Check if the red light is on.
3. Check the cable connection between the PC and Communication Box.
4. Check if the correct COM port has been selected (see chapter 3).
5. Check if the power on (PowOn) indication is shown at the bottom of the SeaStar window.

Defining the Com Port for USB Serial Converter

The easiest way to find the correct Com Port is to use the **Connection Wizard** which can be found under the **Wizards** menu in the software.

The wizard will display all the com ports available. Plug in the USB cable and the selected com port will turn green.
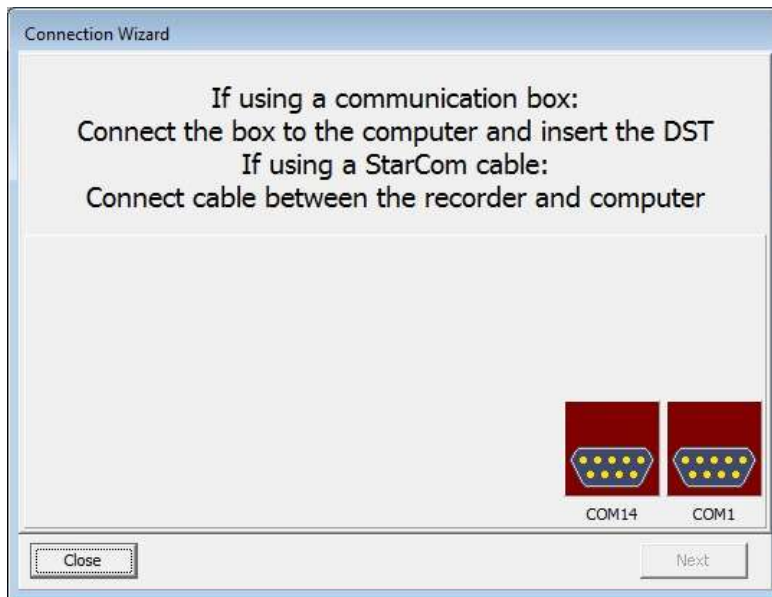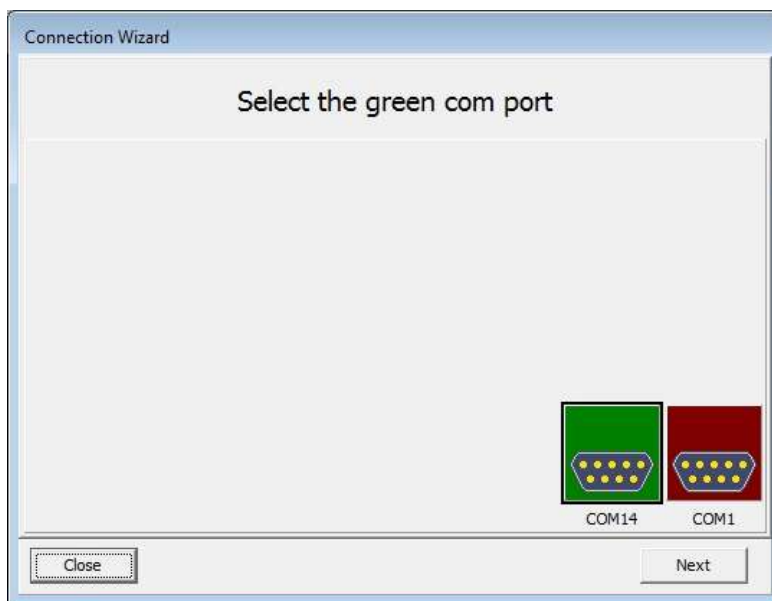
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Figure 1.1

Figure 1.2

NOTICE: If no connection can be established with the logger using the USB serial converter cable, the following procedure should be performed.

First connect the USB serial converter to a USB port. Open the **Control Panel** under the **Start** menu and open the **Device Manager**.
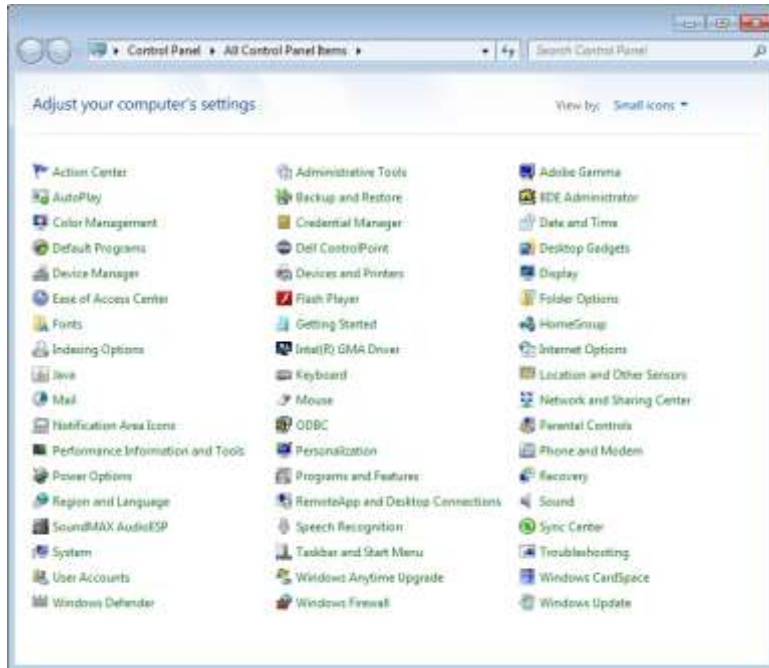

Figure 1.3

Click on **Ports** (COM&LPT).
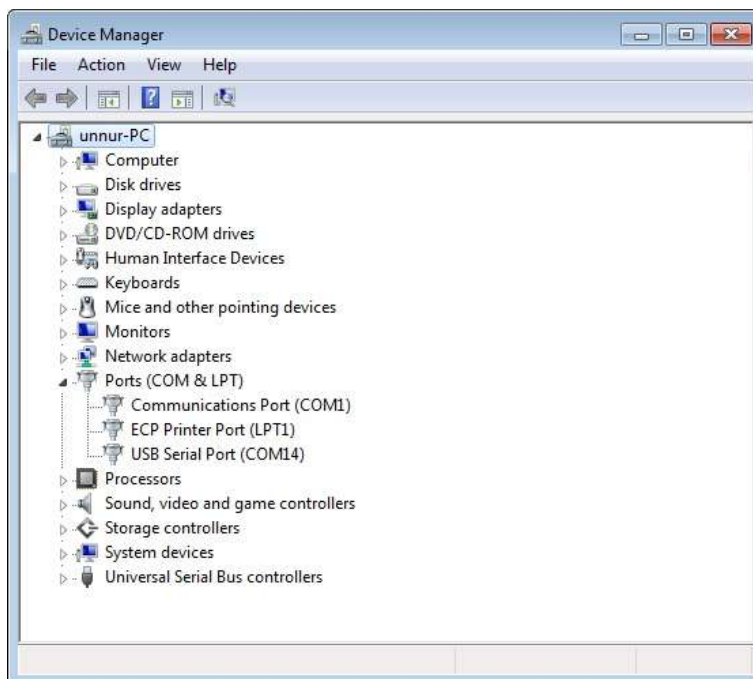
Figure 1.4

Double click on **USB Serial Port** and select **Port Settings**.
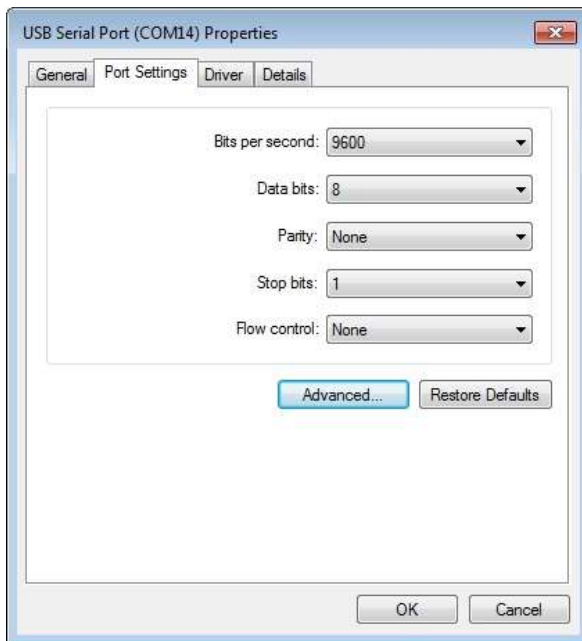
Figure 1.5

Click the **Advanced button** and the following window appears:
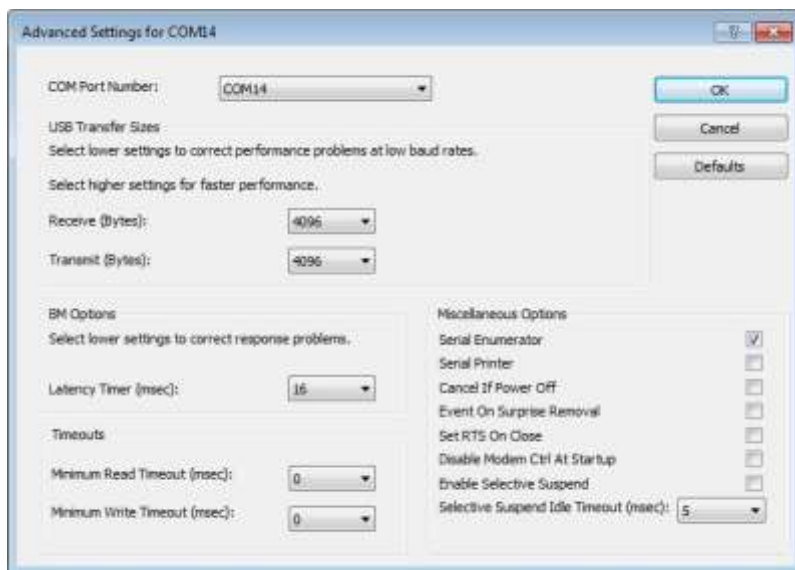
Figure 1.6

Under **COM Port Number** you can define a com port for the USB serial converter. After having selected the **COM Port Number**, make sure to close SeaStar. When re-opening SeaStar, the COM port should become active in SeaStar and can be viewed either under the **Connection Wizard** or **Settings** > **Communication** > **Serial Ports**. If the COM port number does not become active in SeaStar please try another COM port number. Even though the **Device Manager** of the computer reports that a COM

port number **is in use**, it might be possible to define and use those COM ports for the USB.

There is no "one" solution here, as it varies between computers, and the user may have to try several times to define a few different COM port numbers. It might also be necessary for the user to shift the USB plug between different USB inputs on the computer. If the USB cable is switched to another port, the computer may not find it at first, but if it is un-plugged and re-plugged it is likely to be found.

1.3   No Green Light

1. Check if the red and yellow lights are on.
2. Check if the voltage selection on the AC/DC adaptor is set to 9V or higher (220V AC).
3. Check if the logger is inserted correctly into the hole in the box. The spherical end should face down.
4. If the recorder has been recording in water, please wipe it dry before inserting it into the box.

1.4   Unstable Green Light

1. If using a laptop, make sure that the DC power supply for the laptop is kept as far away as possible from the Communication Box.
2. If the logger comes with a plastic tube attached, make sure that the tube goes all the way through the hole on the bottom of the box so that the logger is placed on the correct level for communication.

1.5   Communication Errors

All Three Lights on the Box are on

1. Check if the voltage selection on the AC/DC adaptor is set to 9V or higher.
2. If using a laptop, please make sure that the power cable/DC power supply are located as far as possible away from the Communication Box and the communication cable.
3. Make sure that no electrical devices/power sources are close to the communication cable/box.
4. Check the cable connection between the PC and Communication Box.
5. If a **Device Error** is reported upon connection, please check if the SeaStar program has been opened more than once. This error can also occur if a different program is open and is using the same communication port as SeaStar.

CRC Error

The CRC test is a safety check performed by the software when retrieving the Recorder Information Data (RID). The CRC is a register in the RID file which is calculated **and placed in the recorder's RID** when starting up a new measurement sequence. When retrieving the RID from the recorder, SeaStar calculates the CRC **from the retrieved data and matches it against the recorder's CRC** register. If they do not match a CRC error is reported.

The reason why a CRC error occurs is most likely due to bad communication. Check section 1.5.

It is possible to disable the CRC check while connecting. This is done under **Settings – Connection** in the software. Normally the CRC should not be disabled, but the following scenarios are an exception where CRC check can be disabled:
   a) A communication error occurred while connecting. Please check section 1.5 before disabling CRC check.
   b) A communication error occurred while initiating a new measurement sequence.
   c) A communication error occurred after data retrieval while updating status in the recorder.
   d) A communication error occurred while putting the recorder to sleep.
   e) A communication error occurred while updating status in the recorder upon POR (Power on Reset) error detection. When connecting to the recorder and POR error is detected, a new status is initiated in the recorder and the RAM data is reset.
   f) Repeated CRC error occurs and the above does not apply/has been checked. This may though produce errors in the RID file which again may produce errors in the conversion of data.

Disable CRC Check

   1.   Go to **Settings – Connection** and disable **Perform CRC test when retrieving RID**.
   2.   Try connecting to the recorder **Recorder – Connect**.
   3.   If connection is OK, then examine the RIT file for possible errors. These possible errors may manifest themselves as very high (>E20), or very low (<E-20) calibration constants. Other errors may be abnormal times/dates and abnormally high measurement sequence number in the RIT file. Usually SeaStar will come up with a warning if the calibration constants or time/date is not normal. If the RIT shows signs of these errors, please request recorder backup file (RBD) from Star-Oddi.
   4.   If the recorder has been measuring data, try to retrieve the data **Recorder – Retrieve Data**. If data cannot be retrieved then there is a fault with the PC com port, the Communication Box /cable, or the recorder. If this is the case please contact Star-Oddi.

5.   Make a short measurement test and start the recorder with a new measurement sequence **Recorder – Start New Measurement Sequence**.
6.   Connect to the recorder after the short measurement test, **Recorder – Connect**. The CRC check is automatically enabled. If a communication/CRC error occurs then there is fault with the PC com port, the Communication Box /cable, or the recorder. If this is the case please contact Star-Oddi
7.   Retrieve data from the short test **Recorder – Retrieve Data**. Analyse the data and verify that the values are correct.

Updating Settings to Recorder Fault

If there is an existing communication problem while using a USB serial converter the user can try to disable the **Check Data Echo in SNMS** option. This option will bypass data echo checks, resulting in less restriction on communication protocol.

By choosing the **Settings** menu and the **Connection** option command the following window appears:
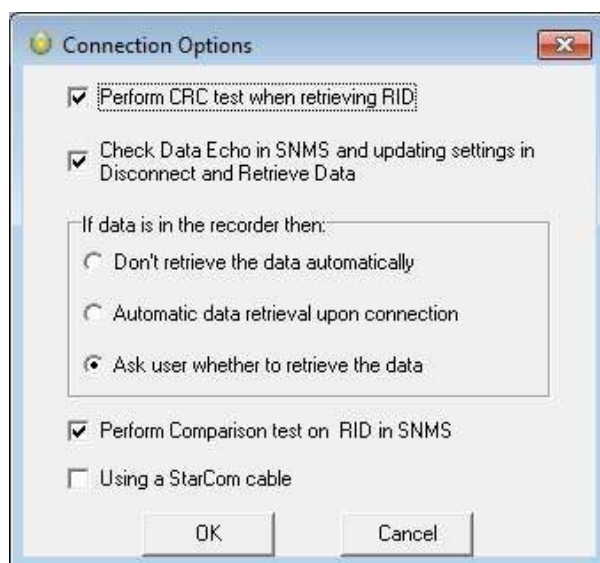

Figure 1.7 Connection Options

Disable the **Check Data Echo in SNMS**. Press OK and try to connect again.

Comparison Test Error

The comparison test takes place when the PC has sent all the settings data to the recorder and it reads the whole file back and compares to what was sent. Bad communication can cause errors in the information file when read back. If the data echo check is enabled it is guaranteed that the information file was transferred correctly to the recorder, therefore it is OK to disable the comparison test.

1.6 Communication Problems

When there is a lot of electromagnetic noise, you might experience communication problems between the logger and the Communication Box.

Try the following:

1. Move the Communication Box further away from other electronic equipment if possible.
2. Connect the In-the-field Power Supply. The power supply is a 9v battery with a connector to the Communication Box that can be used in the field with Laptop when there is no grid available.

2. Starting a New Measurement Sequence

2.1 Communication Errors

1. Timeout on command echo (no response from recorder).
    a) Check if the voltage selection on the AC/DC adaptor is set to 9V or higher.
    b) This may happen because the logger has been removed (and inserted again into the hole). The recorder is off-line. Please try to connect again.
2. Other communication errors.
    Other communications problems can occur although the logger is still on-line. The user is prompted to try starting the logger again in a new measurement sequence. If the user chooses to connect to the logger again, a CRC error will most likely occur. In that case, the user should disable the CRC check (**Settings – Connection**).

3. Retrieving data

3.1 Communication Errors

1. No data retrieved.
   This is likely to happen if the battery is depleted or has failed. This means that the logger has not taken measurements. To verify if the battery is dead, the following can be carried out:

   a) Insert the logger into the box so that all lights are on.
   b) In SeaStar, choose **Settings – Communication – Serial Ports** and set the **Port Enable/Power** as OFF. Before pressing the OK button watch the yellow and green lights carefully:

   a) Press OK. If the green light goes off ca. two seconds later than the yellow light, there is still battery life remaining.
   b) If the green and yellow lights go off at the same time when the OK button is pressed, the battery is dead.

   Remember that after these steps you have to go back to **Settings – Communication – Serial Ports** and set the **Port Enable/Power** to ON.

2. Timeout on command echo.
   There is no response from logger. This may happen because the logger has been removed (and inserted again into the hole). The recorder is off-line. Please try to connect again and retrieve data.
3. Other communication errors while retrieving data.
   The result of the retrieval can be viewed in the .MIT file. Usually, if the communication is in order and all the data is retrieved correctly, SeaStar will automatically convert the data from the decimal values (.DAD), to the unit values (*.DAT). If this is not the case, then SeaStar may drop the conversion part and it is up to the user to either retrieve the data again or manually convert the data, depending on the status of the retrieval. If a communication error occurs in the middle of data retrieval, the logger goes off-line. The user must connect to the logger again and retrieve the data again.
4. Communication errors while updating logger status.
   In the event that a communication error occurs while updating the status in the logger, i.e. after retrieving the data, the CRC register in the logger is probably corrupt. Thus when connecting again to the logger, a CRC error will likely occur. If so, please disable CRC check as described under **CRC error** in chapter 1.5.