Troubleshooting the Micro/Mini Logger

When an instrument is initially connected to the computer and the Wizard program is started, if no response is received, an error message will be displayed: *The instrument is not responding, check connection.*

Although not all of these problems can be solved in the field, there are some short procedures which can be used to quickly resolve the occasional problems of a Micro or Mini series instrument.

1. The first thing to do is to check the physical cable connections. Next, try using a different computer and/or a different instrument to see if the problem is a bad serial port. If these initial steps produce no results, you should use the built in communication program in the Wizard software to continue troubleshooting.

2. From the main menu of Wizard, select Utility and then Connect. Along the bottom of the Connect screen, the communication parameters are displayed. In most cases, the settings should be: Com1, 19200 Baud, No Parity, 8 bits, 1 stop bit. To change any of these communication parameters, press the <F2> key, and the Communication menu will be displayed. Select and change any settings that may be incorrect. Use the up/down arrow keys to select changes and the Enter key to make them. Press the ESCape key when finished to get back to the Connect screen.

3. After parameter verification, you should have one of five outcomes:
   a) *CL4>* or *CL6>* prompt is the normal response.
   b) *lobat*, (will only appear after waiting at least 60 seconds), indicates that the main batteries are below operating levels.
   c) *OK>* prompt means that the instrument has become deprogrammed.
   d) *Z* or *Zzz* means the instrument's memory is full.
   e) The screen will remain completely blank.

4. If there is a *CL4>* or *CL6>* prompt and the instrument is still <u>not</u> responding, (which is unlikely), please call Coastal and we will suggest additional tests.

5. If the *CL4>* or *CL6>* prompt is displayed, and then a *lobat* appears after 60 seconds, the instrument is working correctly, but the main batteries are below normal operation levels. If there is data in the instrument that needs to be downloaded, first check to see if the two 'AA' batteries (Micro logger), or the 9 volt battery (Mini logger), both located inside the white electronic box, are okay before any main 'D' battery stacks are removed. When changing the batteries, remove all 3 stacks from the battery board before replacing any stack. After the 'D' stacks are replaced, you may then also replace the smaller batteries if needed. You should also take this time to check the battery contacts.

6. If an *OK>* was detected during any of these procedures, the data logger program has been lost, (or in extremely rare cases it has stopped running). This can be caused if the instrument has had its batteries removed, or if the power supplies are somehow shorted by the user. To check, type: *RUN* and press Enter. If an *OK>* comes back, the logger program has been lost, and the instrument needs to be Reprogrammed. See separate instructions: "Reprogramming the Micro/Mini Logger."

7. If a *Zzz* appears (Wizard versions 5.05 and 5.07), the data capacity of the instrument's memory has been reached, and the instrument has gone into a sleep mode in order to preserve the data. This is a normal function. Simply exit the Connect screen and choose Read from the main menu. The data will download. You may then reinitialize the instrument.

    If a *Z* appears (Wizard version 5.06), the data capacity of the instrument's memory has been reached, and the instrument has gone into a sleep mode in order to preserve the data.

    NOTE: If there is critical data to be recovered, you might want to contact Coastal before attempting to troubleshoot this problem on your own!

    However, if you are in the field and need to attempt recovery, do so according to the following directions:
    a) Hold Ctrl C keys down until you see the CL4> prompt.
    b) **Quickly** press Esc, then Y, then Enter. The main menu will appear. Press R, then Y, then Enter. If this procedure takes more than 3 seconds, you will end up back at the *Z* and will need to try again.
    c) Once the data has been read by completing step b), you will need to reinitialize the instrument. Go back to the Connect screen. Repeat step a).
    d) **Quickly** press Esc, then Y, then Enter. The main menu will appear. Press I to Initialize.

    If your instrument is running Wizard 5.06, we highly recommend that you contact Coastal to upgrade to version 5.07 in order to avoid the above procedure in the future.

8. A blank screen could indicate one of a few problems:
    a) The battery voltage could be below 6 volts (the minimum needed to produce the *lobat* message); measure the battery stacks with a DC volt meter to determine that case. If so, replace batteries according to step 5 above.
    b) There could be a problem with the wiring in the external bulkhead connector. To Check this, first disconnect the bulkhead adapter from the Micro/Mini Interface Cable. Next, disconnect the modular phone plug that connects the bulkhead communications port (on top of instrument) to the in-line coupler (underneath the top plate). Replace with the modular phone plug at the end of the Interface Cable. Retry Connecting to the instrument.

9. If there is still no response from the logger, and there is no required data in the instrument, it can easily be reprogrammed according to the following directions:
    a) Disconnect the instrument from the computer.
    b) Open up the white electronic box and remove the yellow shunt that connects the back-up batteries to the electronics (remember where this shunt goes!). This shunt is located near the right hand edge of the electronic board about 2 inches down on the right side.
    c) Disconnect the main battery supply by disconnecting the modular phone plug on the battery board. (In instruments with multiple battery boards, disconnect the modular plug on the battery board whose cable comes through the white electronic box, usually the top most battery board.)
    d) Wait approximately one minute, then reconnect the main batteries by reconnecting the modular plug.
    e) Reinstall the yellow shunt.
    f) Reprogram the instrument following separate instructions: "Reprogramming the Micro/Mini Logger."

10. If none of the above steps restores communications, the remaining options would be:

    a) Obtain or have Coastal send a replacement MAX220 or MAX232 serial line driver.
    b) Coastal could possibly send an exchange set of electronics.
    c) To be absolutely sure the problem is solved, consider sending the entire system back for checkout and service.

Reprograming the Micro/Mini Logger

From the directory in which you will start the WIZARD program, (example, C:\), enter the following to start WIZARD in the Programming & Calibration mode:

(ex. C:\) Wizard -PROgram [enter]

The title page will appear showing information such as WIZARD version and the start time of this session, but most importantly it indicates that the Wizard Programming and Calibration Utility is in use.

[Hit any key to continue]

A four item Main menu will appear, with the Program option highlighted. Press [enter] to select this option.

WARNING! This discards stored data. Reprogram instrument? N

Press [Y] to Reprogram the instrument.

The following messages will be displayed by the program automatically.

First, *Requesting the instrument attention* . Then it will start
   Preparing the instrument for programming.
Next *Sending the program to the instrument*.

The instrument is now reprogrammed and the Main Menu will be displayed. The Calibrate option will now be highlighted. Press [enter] to select this option.

Select from files matching: prm*.prm

press [Enter]

A list of parameter files will be displayed. Use the up/down arrow keys to highlight the correct serial number.   Press [enter] to checkmark the file and hold the [ctrl] and [enter] down together to send the parameter file to the instrument.

WARNING! This discard stored data. Calibrate instrument? N

Press [Y] to continue

Note! M4 deployment will start immediately. To alter, reinit after cal.

This message means the instrument will start to take data almost immediately after calibration is complete. (You should, after quitting the Programming & Calibration mode of WIZARD, run WIZARD and Initialize the instrument with real deployment settings.)

[Hit any key to continue]

The instrument will now wait for the clock synchronization. Once synchronized, the instrument's attention will be requested, and the parameter file will be sent to the instrument. It will then digest the parameters. The program will then request the instrument's attention and load the settings from the instrument.

The four item Main Menu will appear. Select Quit and quit the Programming & Calibration utility of Wizard.

Start WIZARD as you normally would, (type: *Wizard [enter]*) and Initialize the instrument.

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