SeasaveV7 Setup & Data Acquisition

SeasaveV7 on Windows 7 CTD Operator's Cookbook

1. Turn on deck unit and be sure what is displayed on the front LED panel are non-zeros.

2. In Seasave v7, select **RealTimeData/Start** from the menu.

3. Do Not store data on disk immediately so select "*Begin archiving data when the start archiving command is sent*".

4. Click **[Select Output Data Filename]** and label the station's data file (YYMM###.hex)

5. Be sure the Instrument configuration file is YYMM_DoNotMove.con

6. Click **[Start]** then fill out the header form which should include:
   - Ship: (Full Name ie RV Bell M Shimada)
   - Cruise: (YYMMSS ie 1704SH)
   - Station: (LL.L SSS.S ie 93.3 120.0 using space only, not comma or / to separate the Line Sta)
   - Cast: (### = order occupied ie 017)
   - Operator: (Initials ie DMW)
   - Cast Type: (PRODO, ROS, SCCOOS, ANCILLARY)

7. Record deck pressure from fixed display 2 (right middle screen).

8. Deploy the CTD over the side, tell the winch to "zero at surface and take it to 10m".

9. Start the 2 minute timer.

10. While waiting, find & record bottom depth; on NOAA vessels ask the survey tech or acoustician for a bottom depth. For Knudsen range adjustment: use the "cheat sheet" to adjust the proper depth ranges on the Knudsen. If this takes longer than 2 minutes and the depth is known to be deeper than 550m, come back to this task after starting the CTD downcast. As it is going down, keep adjusting the Knudsen until you get a definite bottom. If the weather is rough, this may be futile so note it on the console ops. **Always use the CTD altimeter to determine the terminal depth on casts less than 515m**.

11. After 2 minutes on the timer, return CTD to surface. Click [**OK**] on the "**data not saved**" dialog box onscreen

12. *****VERY IMPORTANT*** Start recording data to disk by pressing *RealTimeData/Start Archiving*.** Also press **Display/Erase All Plots** to clear the screen plots of the 'noisy' surface-to-10m pre-soak sensor data.

13. **Verify the data is saving to disk** by confirming the "archiving data to C:\YYMMSS\YYMM###.hex" just below the top toolbar menu.

14. Send the CTD down to 515m (bottom depth permitting, otherwise to within 10m of bottom) at 30m/minute. After 100m, direct the winch operator to speed up to 50-55m/min, weather-permitting. If it is rough, continue down at 30m/min to terminal depth; if REALLY calm you can go 60m/min.
    Use the altimeter to adjust the terminal depth if it is shallower than 515m or a basin station. The altimeter will usually start displaying the distance from bottom at ~50m off-bottom - this varies if the bottom is soft or wire angle is not near zero. The altimeter reading usually stabilizes within 30-20m off bottom so watch the altimeter value carefully and stop short if necessary to achieve the 10m off-bottom desired depth. If the weather is calm (very little ship roll), you can then adjust the terminal depth deeper a few meters if it results in a extra standard depth bottle (ie 10m or more from the next closest bottle).

15. Using the chl max visible on the downcast fluorometer profile, select the proper Console Operations (Console Ops) Cast-Type form: 0-50m Chl max = Type I; 50-120m chl max = Type II; or chl max >120m = Type III.

16. When 515m is reached, be sure the CTD depth is 515m or deeper and it is not just 515m of wireout. If not, pay out more wire till the CTD depth reads 515m or more. Once the terminal depth is reached, record the wire-out, time-stopped, depth (to tenths); temperature, conductivity, and salinity (all to 3 decimals); altimeter if shallow. If the wire settles and the CTD is deeper than 515m, it is **not necessary** to readjust the CTD depth. After 20+seconds, click [**Mark Scan**] then [**Fire Bottle**] then, for the 1st trip only, [**Add to .Nav File**]. Record the Trip time and check the

confirmation boxes (mrks & fired counts have incremented by +1). Before starting up, record the Time, Bottom Depth, Lat & Lon in the Rosette Start Up box on the Console Ops.

Record the CTDATDEPTH event using CELog, running in the background on the CTD computer if this event is not being logged by the bridge or wetlab.

17. If a Remote Depth Readout box is installed, tell the winch operator the next target depth from the Console Ops form. Otherwise, adjusting for wire vs pressure differences, tell the winch the next desired depth from the Console Ops adjusting for wire angle offset. Upcast winch speed can be 50-60m/min. Note: the Remote Depth Readout box takes about two-secs to update so you may need to tell the winch operator your target depths minus one or two meters (ie 102 instead of 100) so the CTD stops at the exact desired depth.

18. When possible, go out and verify the number of open bottles upon arrival to surface. If a bottle did not close and you can ascertain the mistrip depth, send the CTD back down. But only do this for shallow bottles, say 75m or less. If all looks good, trip your surface bottle(s) and leave the data acquisition running while the CTD is retrieved.

19. Once on-deck, record the final deck pressure, the click **_Real-Time Data/Stop_**, then **<Ctrl><Alt>B** to backup. If the backup fails, it usually because the CTD files are not in the proper directory (like settings or archived) or the cast number is wrong. Fix the problem and backup.

20. Refer to "CTD Post-Cast Tasks" document for more info on post-cast duties.