**Nortek ADCP Operation and Data Offloading SOP**

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**Getting Started:**

Required Hardware:

* Nortek ADCP
* Proprietary ADCP to male serial cable
* Serial port to USB adapter driver

Required Software:

* AquaPro & Storm (available at: <http://www.nortek-as.com/en/support/software>)
* Microsoft Excel
* Windows 7/8/8.1/10

**Connecting PC to the ADCP:**

1. Remove the rubber dummy plug at the top of the ADCP (no tools required) to expose the male preoperative pin port.
2. Connect the ADCP preoperatory cable into the ADCP port by carefully aligning and matching the male port pins with the cable ports.
3. Connect the male serial end of the ADCP preoperatory cable with the Serial female port to USB adapter. The connect the USB end of the Serial adapter into the PC.



1. On the PC, go to and expand the option to find the right COM# of the Serial adapter.
2. Open the AquaPro software, and go to the “Communication” tab and click on “Serial Port…”. On the new window that pops up, Select the correct Serial adapter COM# (from step 3) on the Serial Port drop down menu, click on the “search” checkbox to autoscan the correct baud rate and press OK.
3. AquaPro will check for the port and scan for the correct baud rate and connect. Keep in mind that the ADCP might disconnect due to an idle timeout. You can reconnect by going on the “Communication” tab and clicking on the “Connect” option.

* NOTE: If you’re unable to connect, usually the issue lies with the Serial port to USB adapter, Try using different ones and try to keep the one that works to avoid this issue.

If you try an adapter that works and you’re unable to connect, contact [Vanessa](mailto:vwright@uvi.edu?subject=Having%20issues%20with%20Nortek%20ADCP) or [Andy](mailto:andy.bretonperalta@uvi.edu) for further assistance.

**Setting up ADCP for Deployment:**

Open Deployment Planning

-from Deployment planning check Use Existing or Load from Instrument

\*even though you choose this option you usually have to manually set the parameters

**OPTION 1 (Default Settings Launch)**

Uncheck Advanced Settings and go to Standard settings tab

Frequency 600 kHz

Profile interval 3600 sec

Number of cells 20

Cell size (m) 2

Frequency 400 kHz

Profile interval 3600 sec

Number of cells 35

Cell size (m) 2

\*\*These settings are for a typical deployment, i.e. Hind Bank, and may need to be modified for a shallow site or for a different research question.

**OPTION 2 (Using Online Request Form Settings)**

Launch settings can be inherited if the google request form was used to request an ADCP.

Google account credentials (DO NOT SHARE):

Email: cmesuvistt@gmail.com

Pass: cmesuniversity123

NOTE: You may need to contact Andy Breton for account authentication.

Request form Link (SHARE ONLY WITH CORRECT MEMBERS): [https://docs.google.com/forms/d/1lxpdEQz16DU8GzGfMCIOV7Q930NIj1Bm8GsI57IZN5Q/viewform?edit\_requested=true](https://docs.google.com/forms/d/1lxpdEQz16DU8GzGfMCIOV7Q930NIj1Bm8GsI57IZN5Q/viewform?edit_requested=true%20)

Once the request has been made, you can access the request form with this link (DO NOT SHARE):

<https://docs.google.com/spreadsheets/d/1R-zfisd7WV0N8NfdFFwrUngPDXacP96j_UIK2SmlB1c/edit?pli=1#gid=1749865359>

Similar to option 1, set the parameters manually with the information obtained from the request form.

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Click Apply, then OK.

Go to Deployment, Start recorder deployment

Enter date of deployment and time of deployment in GMT.

**Name the file with a 2 letter site code, month, and year.** For example CS0415 would represent a College Shoal April 2015 deployment. **(Note: This is the initial deployment name; This name will change once the data from instrument is offloaded and processed)**

In the comments section describe the deployment, full site name, researcher making the deployment, project name, etc.

Click OK.

“Do you want to save the deployment configuration to file” – Yes and save it as the same name as the file name above.

Do not set clock to computer time. Set clock to GMT.

Save .log file as well. Very important to keep a record of the .log and deployment files to the computer for the metadata.

All deployment files must be saved on a folder with the same name on the ADCP deployments directory.

**Recording & Archiving ADCP Deployments**

It is extremely to record every deployment and its current status on the ADCP Deployment Log Excel sheet Located on the NAS drive on the ADCP’s main directory. This excel sheet will serve both as a current Deployment log and Archiving. The ADCP deployment & archiving protocols have 3 stages (Deployment, Offloading, and Archiving).

**During the initial launch (Stage 1), once you obtain the log file, the following entries must be immediately filled out on the deployment sheet:**

**AQD:** Profiler serial number.

**AQP:** Head serial number.

**Dep. Name:** Custom naming convention given to the deployment.

**Interval (sec):** Number of seconds of recording intervals.

**Freq. (KHz):** Deployment frequency.

**Cell #:** Number of cells given to the profiler.

**Cell Size (cm):** Size of the cells given to the profiler.

**Dep. Date:** Date of deployment where the instrument will start recording.

**Dep. End/Swap:** Expected date where the instrument will be retrieved or swapped.

**Log File? (Y/N answer):** Where it reminds the researcher to save/keep the log file.

**During stage 2, the following must be filled out immediately to record the state of the deployment.**

**Retrieved? (Y/N answer):** Instrument has been retrieved and in possession of CMES.

**Offloaded? (Y/N answer):** Instrument has been offloaded and saved on the NAS drive.

**Cleaned? (Y/N answer):** Saved data has been processed by storm and data has been cleaned by eliminating both false/junk data.

**Clean Start:** Real start of deployment after it has been cleaned.

**Clean End:** Real end of deployment after it has been cleaned.

**During stage 3, the following must be filled out immediately to finalize the deployment for archival.**

**FileName:** Final name of the deployment after it has been cleaned and processed. This will be automatically generated in accordance with other entries.

**Comments:** Initial comment during deployment and any other relevant information that can later be added.

**Offloading data from ADCP:**

Connect ADCP to Aquapro.

Check communications. Make sure COM port is selected that your USB to serial adapter is attached to. If unsure go to Windows Device Manager to determine COM port.

Under Deployment (or select data offloading icon) select “Recorder Data Retrieval”

Select file to upload.

The software adds an extension to your original file name, usually a 01 or 02 at the end of the file name. You should remove this later but for now this is still your filename.

Upload file.

The offloaded file(s) must be saved in the same deployment folder.

You do not need to delete the file in memory. There is plenty of space to keep all of the data internally in case we need to recover it again one day.