Lab Dtag tips:

Connecting the tag

1. Connect cable to tag, then plug in other end to computer
2. Open D3host by double clicking on icon
   1. A window will open, it will look for tag and if all goes as it should a menu will come up.

Common tasks

Deploy

1. Press c (for configure). You should not have to change the parameters
   1. Salinity = 0%, releases are not set (there is no release), sound at 500 kHz, 1 for gain
2. Once it is set how you would like, press q
3. It will ask if you want arm tag, type Y
4. At main menu press q again
5. Unplug tag, it will flash a few times then flash red ~ once every second or 2 until you start data collection. This lets you know it is armed.
6. Before the session press the play button on the remote aiming at the red flash at the top of the tag. The flashing will stop.
7. At the end of the session press the power button and the flashing will start again
8. After a deployment rinse with fresh water and dry the tag well before downloading data.

Download data

1. Connect the cable to the tag
2. Plug tag into computer, the blue light on the tag will light up, wait for the orange light to flash, then unplug from computer again.
3. Plug back into the computer
4. Open D3host by double clicking on icon as above
5. When the menu appears select 2 (offload data)
6. It will list all the files on the tag. Select the files you want to download. Only download files from the same session at a time so you can give it a unique name
7. Give the files a name. I suggest using one like mine: ex Fr14\_243a is a Freja session from 2014 on Dec 9 (243 is the Julian day) and a indicates it is the first session for freja that day, example 2, Si14\_246b (Sif Dec 12, 2014, her second experimental session of the day)
8. When done downloading type c
9. At the configure menu type q
10. When it asks to arm tag type N
11. At main menu type q
12. Unplug tag – it should not flash

Once data is downloaded it needs to be unpacked

1. Double click on D3read
2. Change directory if you need too – I usually don’t need to.
3. Type part or all of file name
4. A list of all files in that directory with the part of the file name will appear. Select the files you want to unpack by typing the corresponding number (on left side)
5. It will unpack them and save them in the same folder as the .dtg file. There will now be a .wav, swv, xml file (and maybe a wavt file depending on program you use)

Once the data is downloaded you can use the following script to check it quickly.

clear

hdd = 'G'; % I save my data on a hard drive –this just tells what drive

% next I assign a prefix (file name) and directory (you will need to make this fit your data)

prefix = 'Fr14\_331a'

recdir = [hdd,':\ONRProject\DtagData\Fr14\_331a'];

X=d3readswv(recdir,prefix); %reads in file

ecg=X.x{6}; %creates a vector of ECG data (it is found in column six of cell array X.x)

fs=X.fs(6); %Identifies sampling rate of ECG data in column 6

[y1,yfs] = ecgcleanup2(ecg,fs); %run ecgcleanup to remove electrical noise and clean up

% run butter filter to clean up a bit more

[B,A]=butter(4,[0.1 0.3]);

y=filter(B,A,y1);

figure

plott(y,yfs)

If there is a lot of noise it may just have been a bad attachment but look at the state of the electrodes. If the chlorination is coming off, or any wire looks damaged swap out the electrodes. If the electrodes look good, I would try another session. If the attachment looks good during the second session but the data is still bad, I would do some tests measuring your heart rate and see if swapping electrodes improves the signal.

**Swapping electrodes.**

Use fine tip (but not needle tip) forcepts to carefully remove the plug. Try not to damage the O-ring.

Swap the oring from the old to the new electrode.

Put some silicone grease on the plug and connect.

Always test the electrodes by testing on yourself