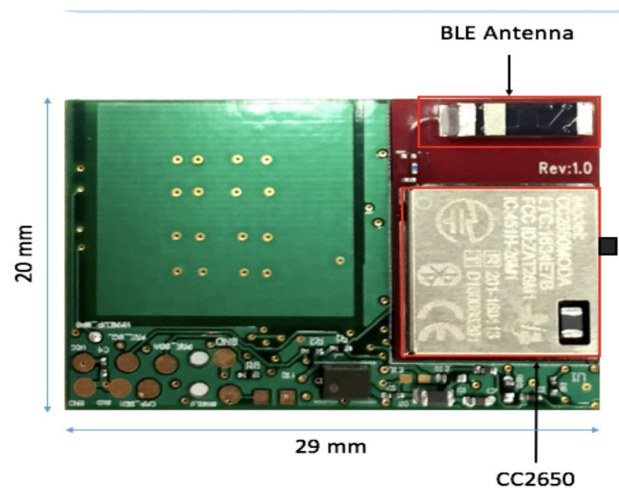
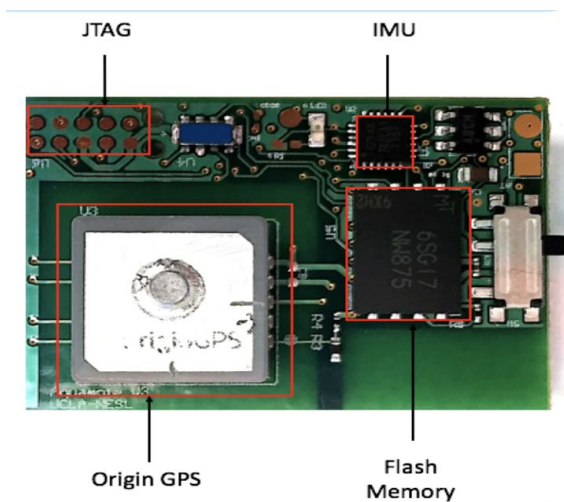
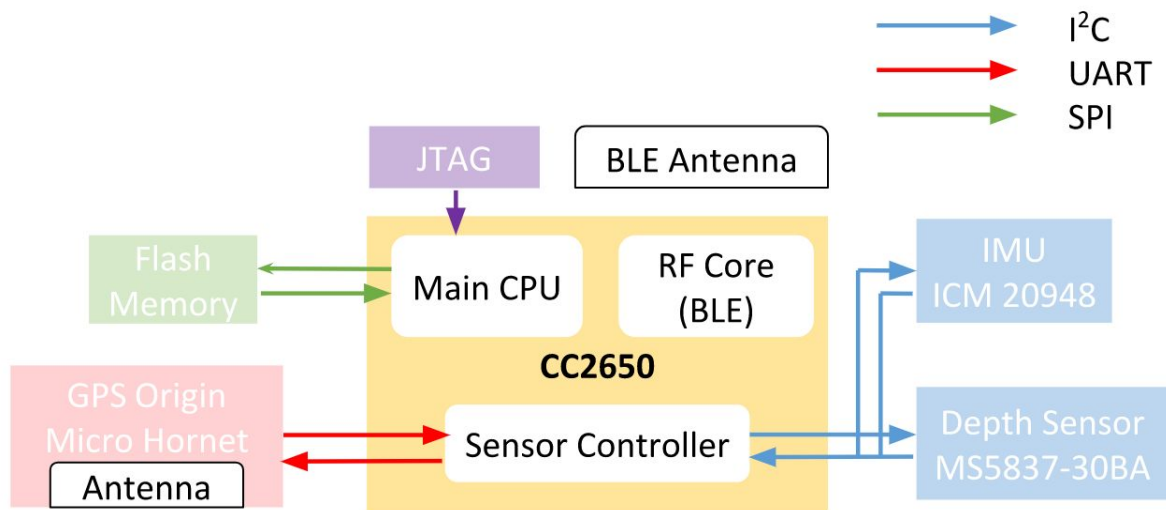


Aquamote v3.1 User's Manual

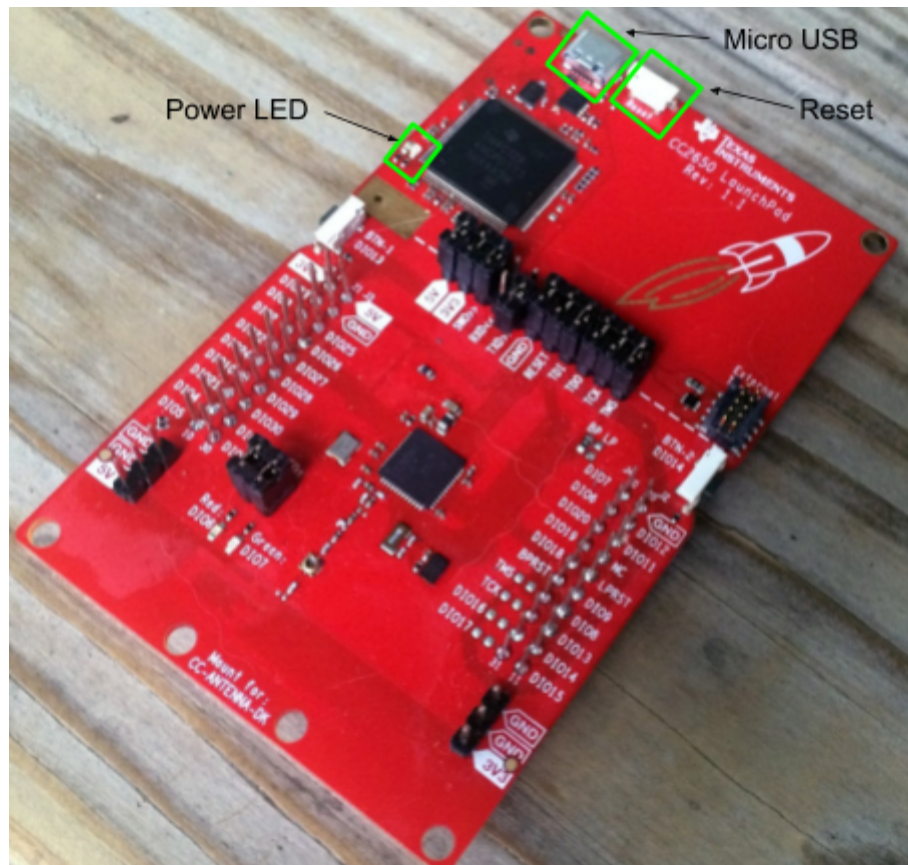
- Component Diagram
- Software Setup
 - TI CC2650 LaunchPad Drivers
 - PuTTY
 - Python
- Operating Modes
 - Data Collection
 - Data Retrieval
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- Converting Raw Data
- Troubleshooting

Component Diagram

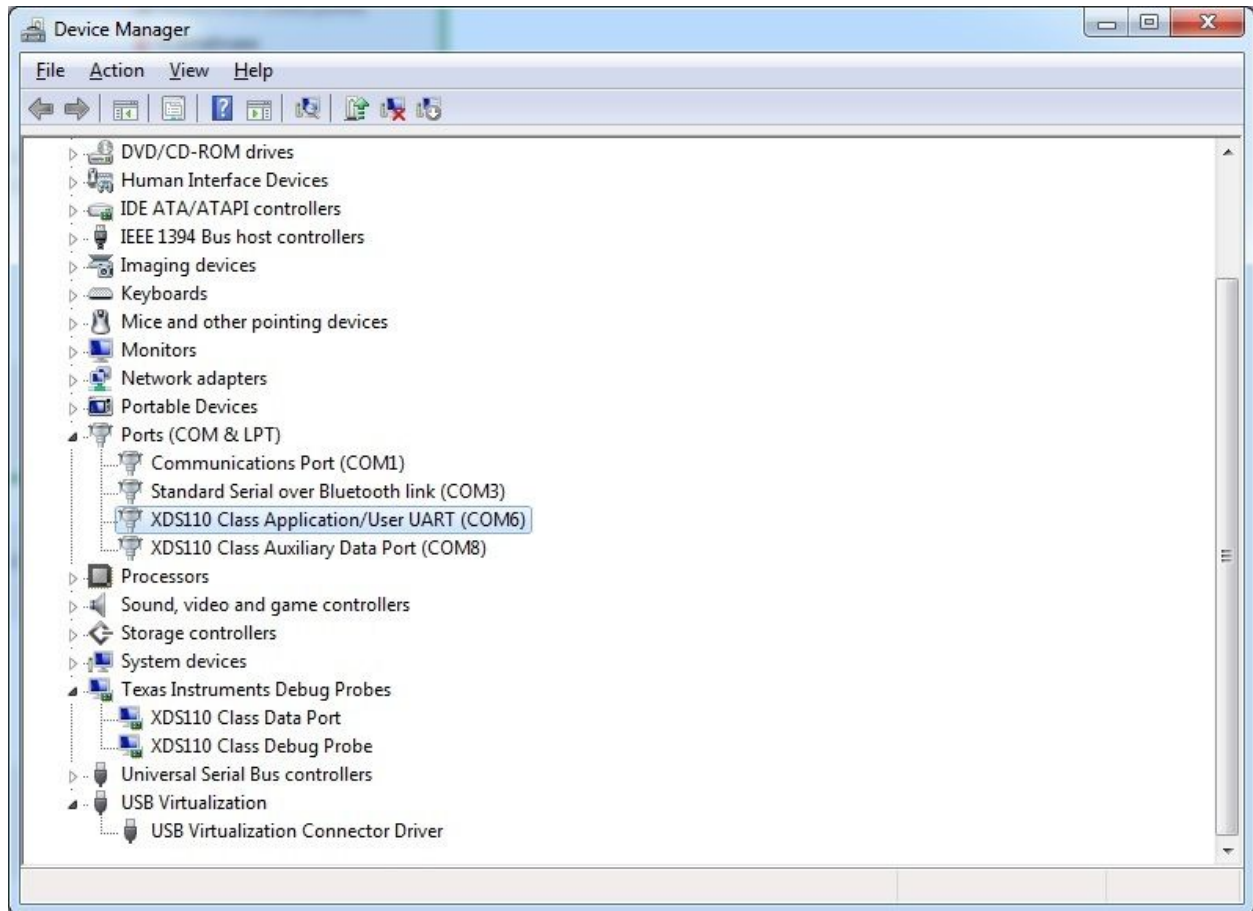


Software Setup

TI CC2650 LaunchPad Drivers



Plug the LaunchPad into your computer via the micro USB cable. The board should immediately turn on and you should see the power LED. Wait a couple minutes for the drivers to install automatically. See troubleshooting section if they don't. If the drivers were installed correctly, in Windows you can open up *Device Manager* by simply searching it in the start menu. It should look like this:



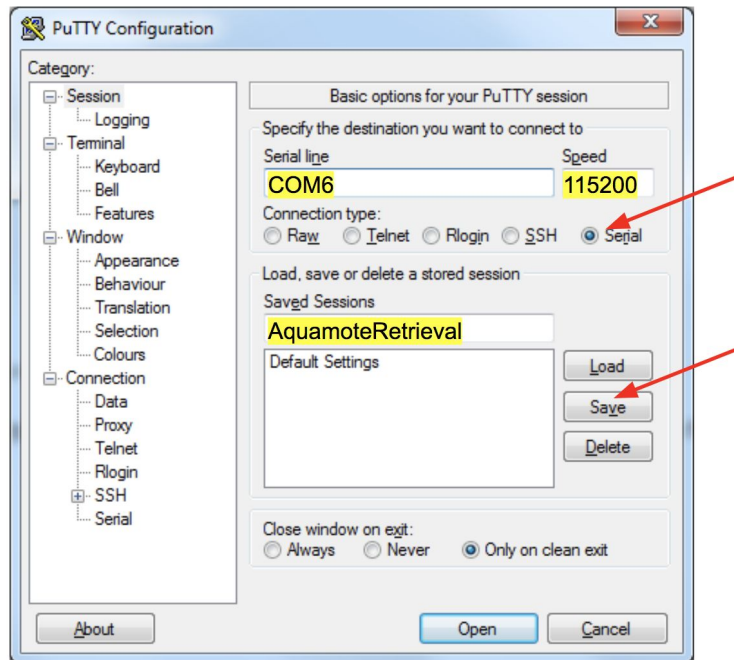
Take note of the COM number assigned to your LaunchPad. For every LaunchPad you plug in, there will be two entries that populate under the **Ports (COM & LPT)** section. We only care about the one marked **XDS110 Class Application/User UART**. In the image above, it is **COM6**

You should have two LaunchPads, one marked for Data Retrieval and one marked for Erase. Try them both, and write down their COM numbers. **Make sure you don't mix them up.**

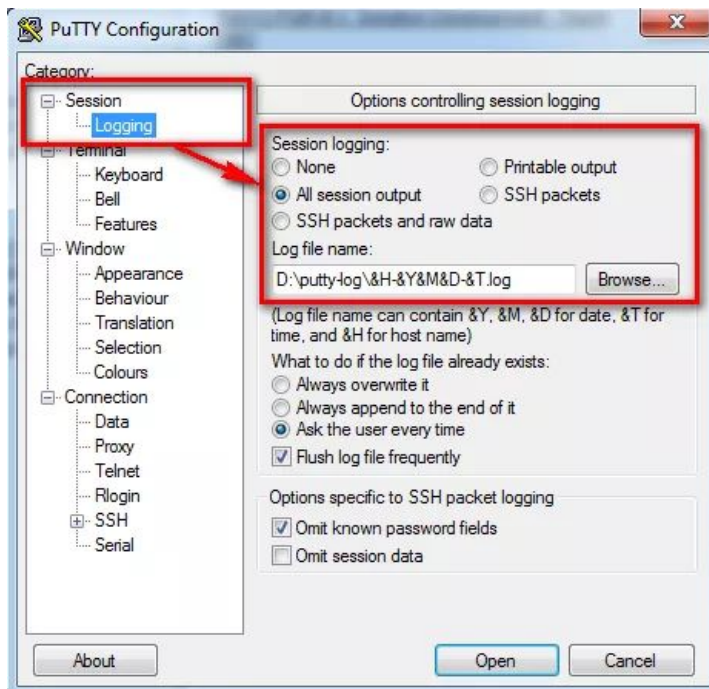
PuTTY

1. First download from [here](#)
2. Then just follow the default steps in the installation wizard
3. Open PuTTY
4. Under "Connection Type:" choose **Serial**
5. Fill the highlighted fields as shown below, but use the COM number you found in the previous steps. **Again, make sure you don't swap Retrieve and Erase.**

6. Then click on **Logging** on the left side panel. Choose **All session output** and then browse to a folder where you want to keep all the logs.

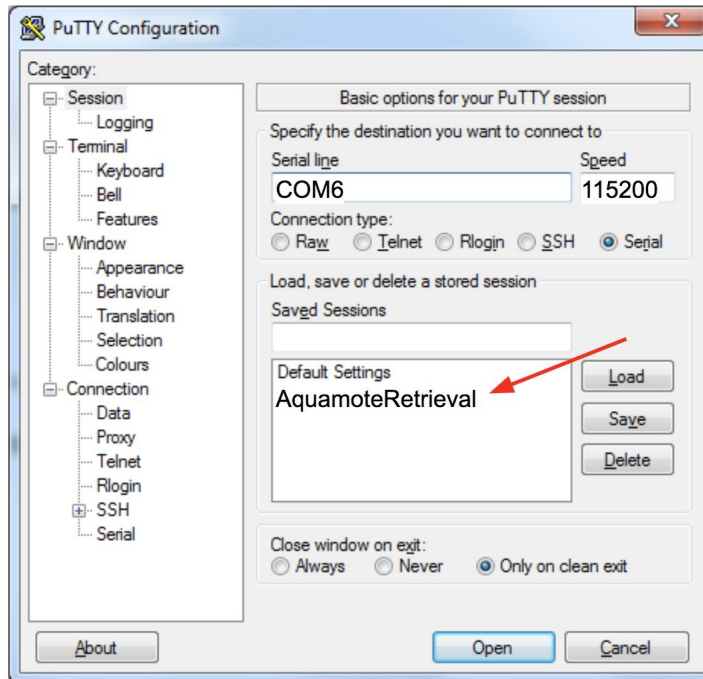


7. Change the log file name from the default putty.log to contain date and time. For example, **AquamoteRetrieval_&Y&M&D_&T.log** will save files named such as **AquamoteRetrieval_20180509_130200.log** This is important, as otherwise you will keep overwriting your log file, and may lose your data.



8. Click back on **Session** on the left side panel

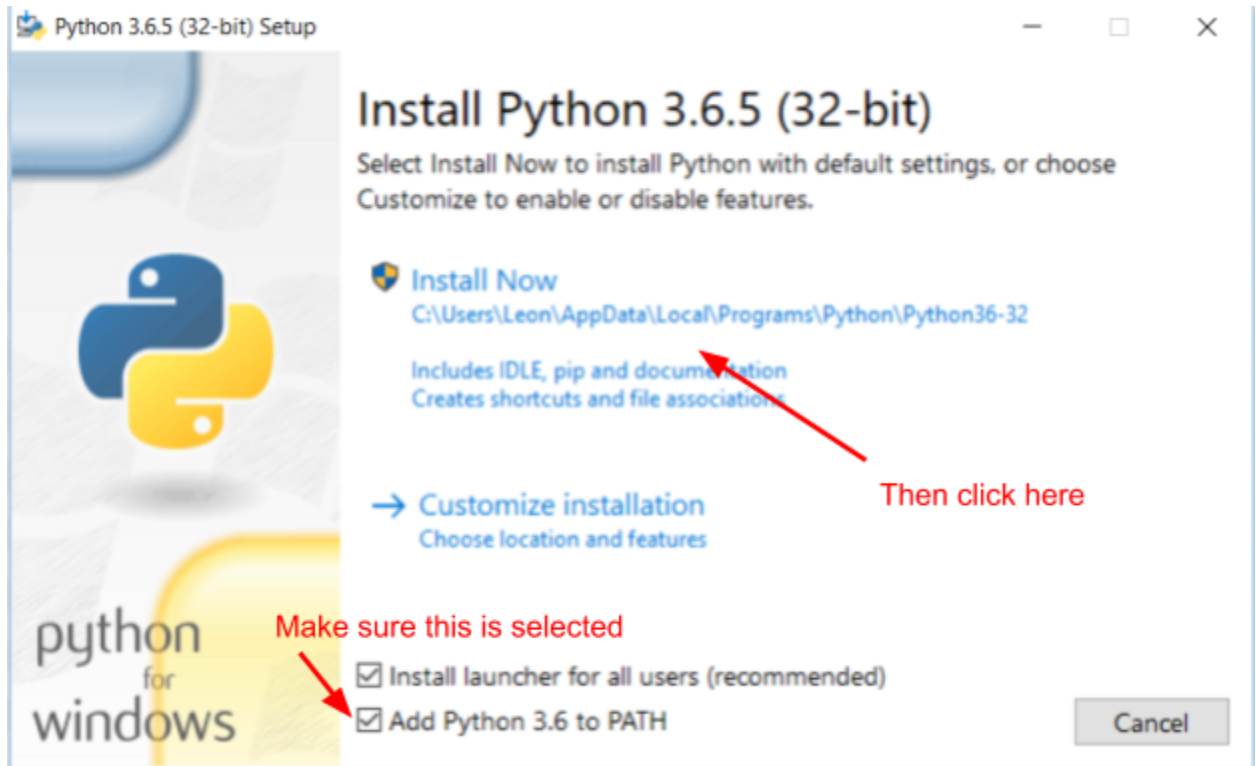
9. Click **Save**
10. You should now see an entry pop up like below



11. Repeat steps 3-10 with the Erase LaunchPad making sure the COM number in step 6 is different. Also make sure to change the saved session name to **AquamoteErase** instead of AquamoteRetrieval. The logging is optional for the erase LaunchPad, but if you choose to use it, make sure to use a different name such as **AquamoteErase_&Y&M&D_&T.log**

Python

1. Download python 3.X from [here](#)
2. Run the installer and choose like below (Version and 32/64bit may vary)



3. Follow the rest of the wizard and leave the default values. This may take a few minutes.
4. Download our python script that converts raw .log files to .csv files [here](#)
5. It's suggested that you keep this close to where you will be storing the log files

Operating Modes

Data Collection

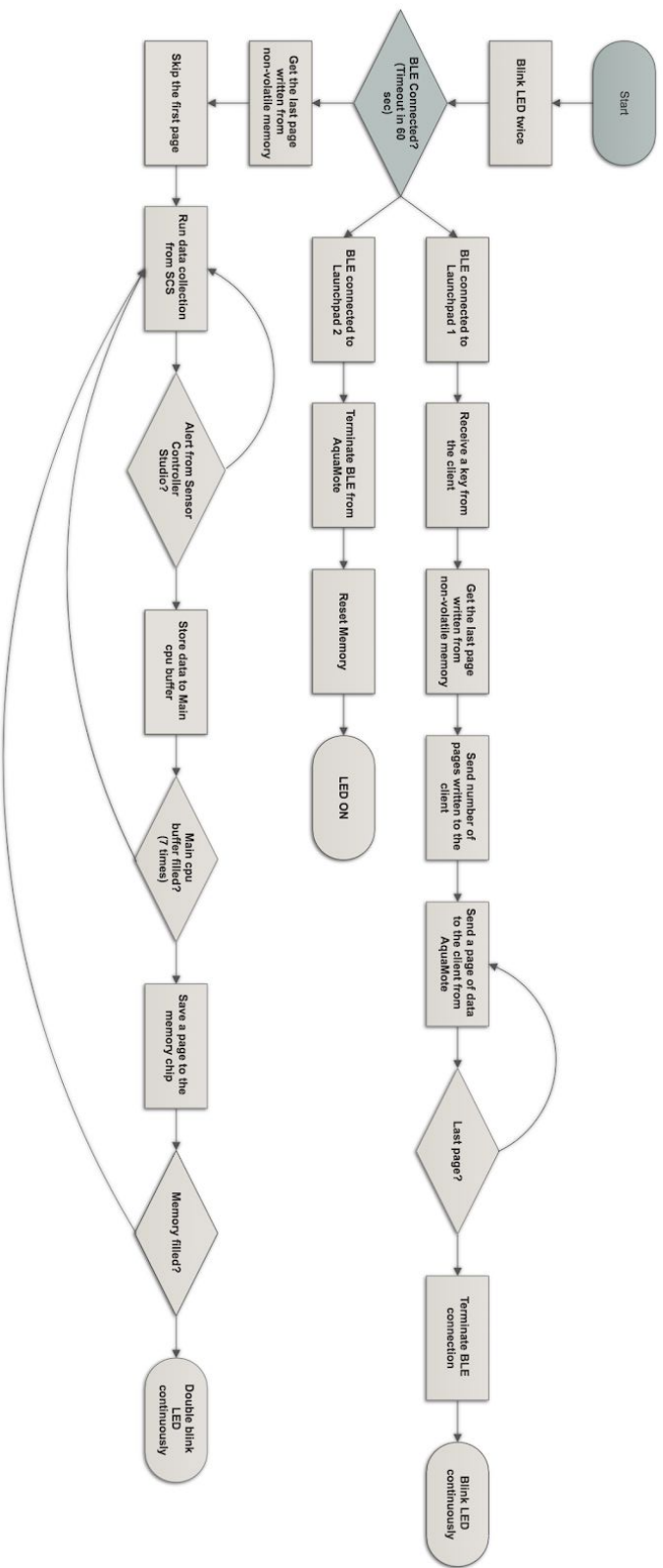
1. Simply turn on the Aquamote, and don't connect any LaunchPad
2. As soon as you turn it on, the Aquamote will blink twice
3. After 40s, the Aquamote will continue collecting where it left off
4. If the device fills up the memory, it will begin to double blink continuously
5. If you want a fresh start and clean memory, do an erase first

Data Retrieval

1. Plug in Data retrieval launchpad to the computer
2. Open PuTTY
3. Click AquamoteRetreival session, Load, and Open
4. Turn on Aquamote and keep it in close proximity to the LaunchPad
5. Input the Aquamote number + Enter (If you get the number wrong or enter in invalid characters, restart the process)
6. Once connected, click any alphanumeric key to start the data transmission
7. Please minimize the screen until the data transfer finishes, and **do not disturb it**
8. When finished, Aquamote LED blinks Continuously and PuTTY windows will display **END OF TRANSMISSION**
9. Turn off Aquamote

Memory Erase

1. Make sure you retrieved the data off this LaunchPad first
2. Plug in Erase launchpad to the computer
3. Open PuTTY
4. Click AquamoteErase session, Load, and Open.
5. Turn on Aquamote
6. Input the Aquamote number + Enter
7. Once connected, click any key to erase the data on Aquamote.
8. Aquamote LED will be solid ON when the erase has finished

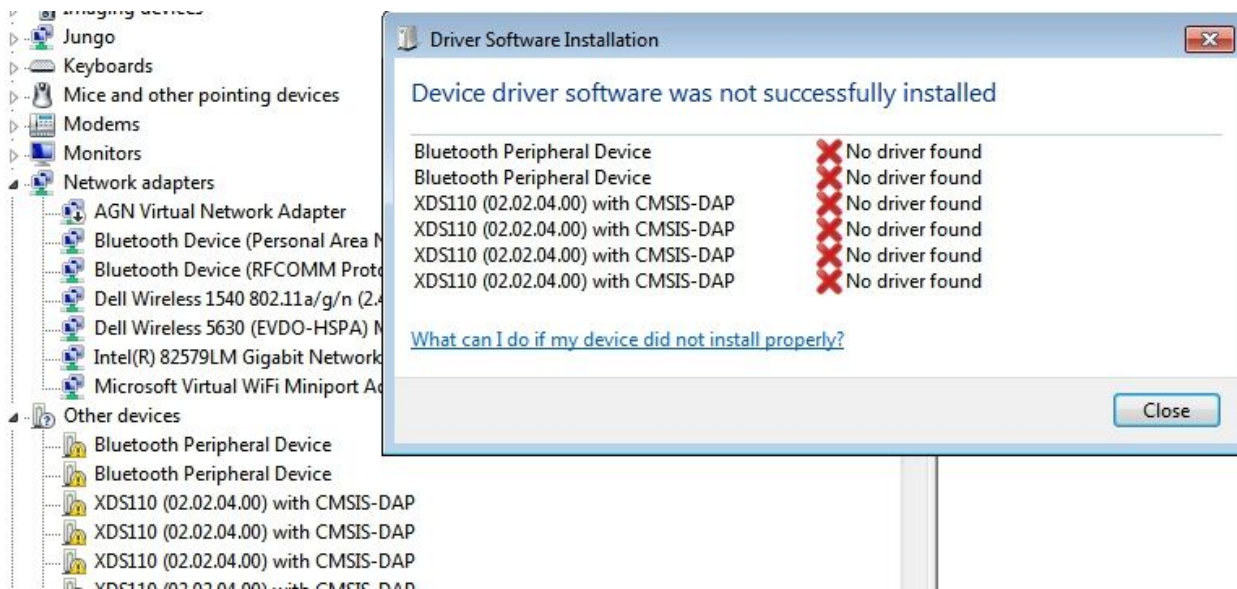


Converting Raw Data

1. In Windows, type "cmd" in the search to open a Command Prompt
2. In a separate window, open the location where you stored the python script
3. In a separate window, open the location of the file you want to convert
4. In the Command Prompt, type "python"
5. Hit space
6. Drag and drop the python script into the Command Prompt
7. Hit space
8. Drag and drop the .log file you want to convert into the Command Prompt
9. Hit Enter
10. You should see "Finished" in the Command Prompt, as well as a .csv file of the same name as your .log file in the same location where you keep the logs.

Troubleshooting

LaunchPad drivers did not install correctly



- Download the XDS110 driver from official TI [website](#) (Recommended, but need to create Texas Instruments account)
- OR use our own [copy](#) (Not maintained or updated, Windows only)
- You should only have to install the drivers once. All new LaunchPad boards should find the drivers automatically from then on