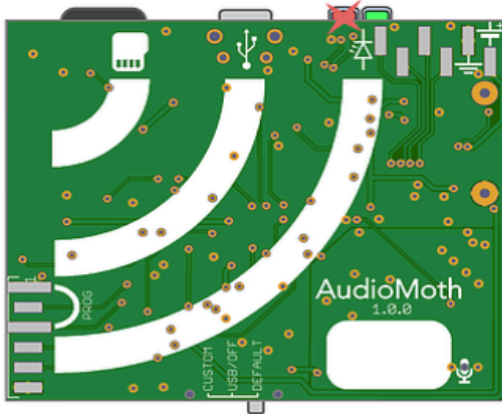


AudioMoth Tips for ARBIMON II

June 26, 2019



Purchase the appropriate batteries and microSD card for your deployment. If the microSD card is not new, format it in MS-DOS (FAT32).

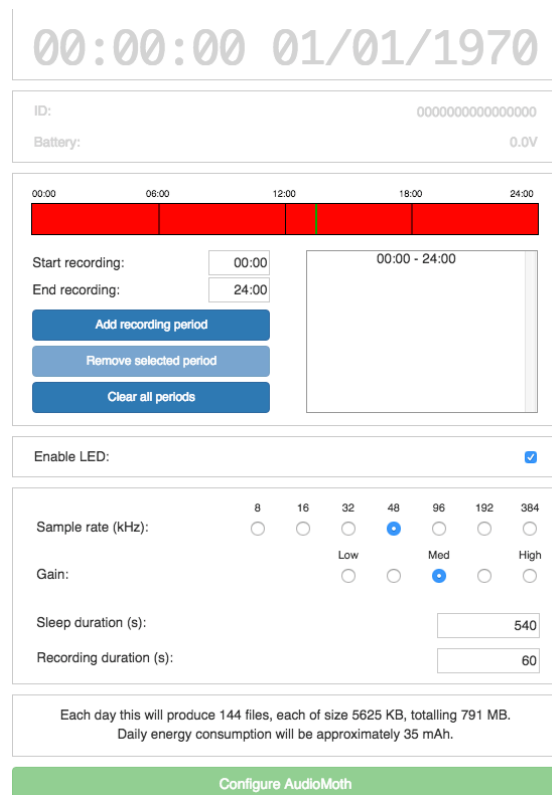
Download SD Card Formatter app here:

<https://www.sdcard.org/downloads/formatter/>

Download and install AudioMoth app here:

<https://github.com/OpenAcousticDevices/AudioMoth-Configuration-App/releases>

1. The switch stick must be in USB/OFF.
2. Insert the batteries and the microSD card in the recorder.
3. Since the recorder's inner time is in UTC, configure your computer's time. Go to date and time preferences and fix your clock by subtracting X hours of the local time (hours to be subtracted will depend on your Time Zone).
4. Open AudioMoth app and select the recorder settings. Our currently default settings are ➡
5. Connect the AudioMoth recorder to your computer via USB. Make sure the recorder batteries and microSD card are appropriately inserted or the configuration will be lost once is disconnected from the USB.
6. After connecting the recorder, with a successful connection, the clock-date screen will not be gray and should tick upwards from 01/01/1970. Make sure the batteries have a voltage greater than 3.9 (under the app clock-date, it says Battery).



00:00:00 01/01/1970

ID: 0000000000000000

Battery: 0.0V

00:00 06:00 12:00 18:00 24:00

Start recording: 00:00

End recording: 24:00

Add recording period

Remove selected period

Clear all periods

00:00 - 24:00

Enable LED: ☒

Sample rate (kHz): 8 16 32 48 96 192 384

Gain: Low Med High

Sleep duration (s): 540

Recording duration (s): 60

Each day this will produce 144 files, each of size 5625 KB, totalling 791 MB.
Daily energy consumption will be approximately 35 mAh.

Configure AudioMoth

7. Click “Configure AudioMoth” to apply the configuration and repeat it 3 times. Make sure that the clock switched to your computer’s time.
8. When programming multiple recorders: unplug the configured recorder, plug the new one, apply the configuration and repeat this step. Configurations can be saved from the AudioMoth button on the top menu.
9. Unplug the USB from your AudioMoth recorder and it is ready to go!

STEPS BEFORE the deployment of AudioMoth recorders:

1. Add an ID number for each AudioMoth recorder.
2. Test all AudioMoth recorders.
3. Insert the recorder and one silica gel pack inside a ziploc bag or any other case.
4. Wrap the recorders inside a bubble wrap and place them inside a briefcase or a backpack.
5. **Checklist:**

- ☐ Formatted microSD cards
- ☐ Batteries and microSD cards properly inserted
- ☐ Batteries status > 3.9 voltage
- ☐ Configured AudioMoth recorders
- ☐ Extra configured AudioMoth recorders
- ☐ plastic bags/case, 2 pin clothes, and 1 silica gel pack for each AudioMoth recorder
- ☐ Small slotted screwdriver (use if the switch stick breaks)
- ☐ Bubble wrap for transporting the recorders
- ☐ Briefcase or a waterproof backpack
- ☐ Field notebook
- ☐ Trail flag
- ☐ Tape
- ☐ Sharpie
- ☐ GPS





Michael Medina / FEMA

STEPS DURING the deployment of AudioMoth recorders at the research sites:

⚠ Handle the recorders carefully. Careless handling could cause a configuration loss, either due to the movement of the batteries or the ejection of the microSD card. In addition, it can cause the breakage of the main switch ⚠

1. Once at the research site, select a safe branch whose leaves do not touch the recorder. Place the recorder in the branch using the pin clothes, with the ziploc bag opening looking down, and carefully push the switch stick to “DEFAULT”.

2. Check that the light flashes in red, it means it is recording. If you are using our configuration default settings, the red light should blink for a minute and then a green light will turn on.

⚠ Lights: if red and green light up at the same time, the recorder will need a reconfiguration. Use the extra configured recorder.

⚠ The internal lights can overexpose the recorder and also attract insects. Use tape to hide the lights.

3. Take the GPS coordinates of the tree in which the recorder was placed and fill up the data table.

| Site Name | Recorder ID | Deployment or retrieval? | GPS coordinates | Time (24h) | Date |
|-----------|-------------|--------------------------|-----------------|------------|------|
|-----------|-------------|--------------------------|-----------------|------------|------|

4. If the research sites are not familiar, use the flagging strategically; e.g. flag the tree just north to the tree that owns the recorder.

STEPS RETRIEVING the AudioMoth recorders from the field:

1. Turn off the recorder, place it in the bubble wrap and then in a briefcase/backpack.
2. In the computer, preferable a PC, create a folder for each AudioMoth recorder.
3. Transfer the recordings from each recorder to their corresponding folder.
4. Convert all the recordings from .WAV to .FLAC format using the audio converter app:
<https://www.mediahuman.com/audio-converter/>
5. Delete all the .WAV recordings only when all the recordings are in .FLAC format.
6. Save the project folder in two different locations (e.g. personal computer and external hard drive) before reformatting the microSD cards into MS-DOS (FAT-32).
7. Upload the recordings in .FLAC format on ARBIMON II web platform. ARBIMON II manual can be found here:
https://docs.wixstatic.com/ugd/13049a_f63517319b91418e87b868b7601ecd31.pdf
8. Create a table with the total number of recordings in each folder/recorder and check that this number matches the number of recordings uploaded in ARBIMON II, Data → Sites.
9. In order to reformat all the microSD cards for a later use, open the SD Card Formatter (<https://www.sdcard.org/downloads/formatter/>), insert the microSD card and click on format. Make sure that all the recordings were eliminated by going to the SD card folder. The reformatting process can damage the microSD cards, even when the SD Card Formatter says: “formatting was successfully completed”.