Questions?

1. How to calibrate location?

- Go to coordinates.py
- Use mainsail to find the right coordinates
- Change parameters in coordinates.py

2. How to calibrate volume?

- Go to volumes.py
- The prep parameter is for how much the rack should go down the first time. Currently, *39.25* will go to the first stop and *46* goes to the second stop.

3. How to change web app IP?

- Go to movement.py
- Change "MOONRAKER_URL=" to the manta IP

4. Where to find functions for kit manufacturing?

- Go to protocols.py
- "kitTest()" is responsible for handling the kit manufacturing testing
- kitTest is called on app.py under the server() function. It is called when you click the kit manufacturing button on the website

5. Where to find functions for kit sample prep?

- Go to protocols.py
- "sample_test()" is responsible for handling the sample preparation testing

6. Web app is not working what should I do?

- Check MOONRAKER_URL IP if it is correct (Use Angry IP Scanner or similar software to get IP)
- Make sure you are able to open mainsail

7. How to modify the "kitTest()" function?

- Go to protocols.py
- At the very bottom, there is a volumes list that can be passed on to the kitTest function.
- Change this list based on what kit to make.

- Now under the kitTest() function, splice the vial coordinates list to match the length of the volume array.
- Note that the vial coordinates are initialized from left to right then down the rows.

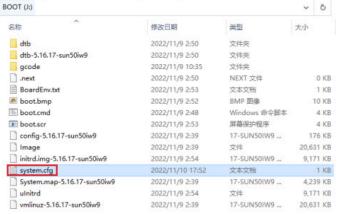## 8. How do I change spacings of wells/vials/tips?

- Go to pipettev2.py
- There are classes for each of the stuff used for protocols (vial holders, well plates, tip boxes) for modularity.
- Change parameters "row_spacing" and "col_count" to the correct distance
- **Note: All distances are in millimeters (mm)

9. How do I change the board network/get started?

Set up WiFi

Note: If you are using an Ethernet connection, please skip this step.
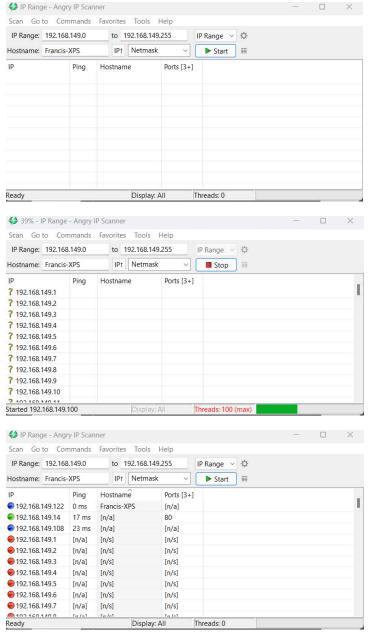
CB1 cannot directly use the Raspberry Pi Imager software to set up Wi-Fi name and password like CM4. After the OS image is burned, there will be a FAT32 partition recognized by the computer on the MicroSD card. In this partition, there is a configuration file named "system.cfg".

Edit in Notepad and set WIFI-SSID and PASSWORD.

Part 1

- Read BIGTREETECH MANTA M8P v2 Manual
- Take the SD Card from the Manta board and plug into computer
- Follow the steps on the left to change config file

Part 2

- Use Angry IP Scanner or a similar software.
- Click start and wait for it to scan all address connected to the network from the config file (from Part 1)

- ** The device address (in my case, Francis-XPS) is used for running the web application. Open *local_networkIP:*8000. (e.g: 192.168.149.122:8000)

- ** The second address (sometimes named BTT-CB1) is used for Mainsail and communication with moonraker.
    - Use this address for the "MOONRAKER_URL" parameter under movement.py