Printer

- **Connect -** Attempts to connect to the specified baud rate and port
- **Add/Subtract X (+/-)**
    - Adds or subtracts value specified in spinbox to the current value of x
- **Add/Subtract Y (+/-)**
    - Adds or subtracts value specified in spinbox to the current value of y
- **Add/Subtract Z**
    - Adds or subtracts value specified in spinbox to the current value of z
- **Baud rate**
    - The measure of the speed of data transmission between two devices
        - Mini printer - 9600
        - I3 - 115200
- **Conductance mode**
    - Sets the sample mode to use conductive touch
        - Note: you must have started conduction to use this mode
- **Dimension mode**
    - Circle beside the dimension in the sampling
        - Disables the dimension and calculates it using resolution and sampling spots

- **Disconnect**
    - Disconnect from the 3D printer
- **Dwell time**
    - The time in between sampling spots where it sits
- **Pause**
    - Pauses sampling and sends the node to X0 Y0 Z100
- **Port**
    - Place within an operating system network where connections start and end
        - Will be named based on the object connected
            - Ex. the mini printer will be called “Original Prusa MINI”
            - Ex the mini printer will be a com port on windows
- **Resolution**
    - Distance between each sampling location in either x or y direction
- **Resolution mode**
    - Disables the resolution and calculates it using the dimension and calculates it using dimension and sampling spots

- **Sample time**
    - The amount of time in seconds that the probe will pause after it hits the lower z or detects conduction.
- **Sample z**
    - The position in the z that the program will do sampling at during constant z mode. Used for flat surfaces
        - For dewaxing, you would use a sample z equal to your start z for a continuous stream.
- **Set z (sample z)**
    - Sets the sample z to the current z position
- **Sampling spots**
    - The Number of spots the sampling program will do in the respective directions (x and y)
- **Sampling spots mode -**
    - This will disable sampling spots, calculating it using resolution and dimensions to the nearest more significant number (ie 3.2 is rounded to 4)
- **Set all**
    - Sets the start position to the current position for each coordinate
- **Set X**
    - Sets the start position to the current position for the x coordinate
- **Set Y**
    - Sets the start position to the current position for the y coordinate
- **Set Z**

    Sets the start position to the current position for the z coordinate
- **Start position**
    - The start position of the for each coordinate when sampling starts. The program will return to this position between each sampling spot
- **Start run**
    - Starts the sampling program with the current gcode
- **Step size**
    - The size of each command sent in conductance mode in the z-direction
        - Note: conductance only triggers a stop after a command has been completed.
        - Larger step size is generally faster.

- **Stop**
    - Stop the sampling and send the printer to x0 y0 z100
- **Update**
    - Updates all the ports to check for any new connections
- **XY speed -**
    - Speed the sampling moves in the xy position in mm/min
- **Z down speed**
    - The speed the probe will move down during sampling for both conductance and constant z (mm/min)
- **Z up speed**
    - The speed the probe moves up (mm/min)

Temperature

- **Set temperature**
    - Sets the temperature of the extruder and the bed as specified by the respective spinboxes above
- **Bed temperature**
    - Termperature of the bed in celcius
- **Extruder temperature**
    - Temperature of the extruder hot-end in Celsius

Conductance

- **Connect**
    - Connects to the specified baud rate and port.
- **Disconnect**
    - Disconnects the conductance
- **Baud rate**
    - The measure of the speed of data transmission between two devices
        - Arduino is usually 9600
- **Port**
    - Place within an operating system network where connections start and end
        - Mac: port will start with serial connection for name
        - Windows: will be a COM port
- **Update**
    - Updates all the ports to check for any new connections

- **Zero at**
    - Zeros the conductance graph at a specific value
        - I.e. setting the value to 100
            - 99 ->0
            - 100->0
            - 101->1
- **Threshold**
    - Used in conductance mode to specify the minimum conductance to stop at
- **Start**
    - Starts the conduction graph and resets if needed
- **Stop**
    - Stops the conduction graph
- **Save**
    - Prompts the user to enter a file to save the conductance under
        - Saved columns Order
            - Time (ms), conductance, x cord, y cord, z cord
- **Scale**
    - Adjusts the displayed size of the conductance graph

Camera

- **Connect**
    - Connects to specified camera
- **Disconnect**
    - Disconnects from camera
- **Capture**
    - Starts camera
- **Camera**
    - Select the camera to connect to
- **Refresh rate**
    - the number of times the image on the camera's display is refreshed per second
- **Take photo**
    - Take a photo label it with the time
- **Start/stop video**
    - Starts and stops video
        - Saves as <time>.mp4

- **Pause**
    - Pauses video

Pump

- **Baud rate**
    - The measure of the speed of data transmission between two devices
- **Connect**
    - Attempts to connect to pump that is under the specified port and baud rate
- **Constant flow rate**
    - Select to run with a consistent flowrate
- **Disconnect**
    - Disconnects from the pump
- **Dwell time**
    - Time at dwell position
- **Flowrate**
    - the quantity of fluid that is passing through a cross-section of a pipe in a specific period of time
- **Flowrate program**
    -
- **Port**
- **Sampling rate**
- **Set flowrate**
- **Set size**
- **Set volume**
- **Start**
- **Stop**
- **Syringe size**
- **volume**