

- ## 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</li>

<li><b>Resolution mode</b> - Disables the resolution and calculates it using the dimension and sampling

spots</li> <li><b>Sample time</b> - The amount of time in seconds that the probe will pause after it hits the lower z or detects conduction.</li> <li><b>Sample z</b> - The

position in the z that the program will do sampling at during constant z mode. Used for flat surfaces <ul>

<li>For dewaxing, you would use a sample z equal to your start z for a continuous stream.</li> </ul> </li>

<li><b>Set z (sample z)</b> - Sets the sample z to the current z position</li> <li><b>Sampling spots</b> - The

Number of spots the sampling program will do in the respective directions (x and y)</li> <li><b>Sampling

spots mode</b> - This will disable sampling spots, calculating it using resolution and dimensions to the nearest more significant number (ie 3.2 is rounded to

4)</li> <li><b>Set all</b> - Sets the start position to the current position for each coordinate</li> <li><b>Set

X</b> - Sets the start position to the current position for the x coordinate</li> <li><b>Set Y</b> - Sets the start

position to the current position for the y coordinate</li>

<li><b>Set Z</b> - Sets the start position to the current position for the z coordinate</li> <li><b>Start

position</b> - The start position of the for each

coordinate when sampling starts. The program will return to this position between each sampling spot</li>

<li><b>Start run</b> - 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** - Temperature of the bed in Celsius
  - 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 and label it with the time
- Start/stop video** - Starts and stops video
  - Saves as <time>.mp4