Opp Scan Help

Printer Commands

- **Connect**
  Attempts to connect to the specified baud rate and port.
- **Add/Subtract X (+/-)**
  Adds or subtracts the value specified in the spinbox to the current value of X.
- **Add/Subtract Y (+/-)**
  Adds or subtracts the value specified in the spinbox to the current value of Y.
- **Add/Subtract Z**
  Adds or subtracts the value specified in the 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.
    - **Example**: The mini printer will be called “Original Prusa MINI” on Mac and will appear as a COM port on Windows.
- **Resolution**
  Distance between each sampling location in either the X or Y direction.
- **Resolution Mode**
  Disables the resolution and calculates it using the 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 axis that the program will sample during constant Z mode. Used for flat surfaces.

    - **Example**: For dewaxing, 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 check in the respective X and Y directions.
- **Sampling Spots Mode**
  Disables sampling spots and calculates using resolution and dimensions, rounding to the nearest significant number (e.g., 3.2 is rounded to 4).
- **Set All**
  Sets the start position to the current position for each coordinate.
- **Set X, Set Y, Set Z**
  Sets the start position to the current position for the X, Y, or Z coordinates, respectively.
- **Start Position**
  The start position for each coordinate when sampling begins. The program will return to this position between each sampling spot.
- **Start Run**
  Starts the sampling program with the current G-code.
- **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. A larger step size is generally faster.
- **Stop**
  Stops the sampling and sends the printer to X0 Y0 Z100.
- **Update**
  Updates all the ports to check for any new connections.
- **XY Speed**
  Speed at which the sampling moves in the XY position in mm/min.
- **Z Down Speed**
  The speed at which the probe moves down during sampling for both conductance and constant Z (in mm/min).
- **Z Up Speed**
  The speed at which the probe moves up (in mm/min).

Temperature Controls

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

Conductance Commands

- **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**: Usually 9600.
- **Port**
  Place within an operating system network where connections start and end.
    - **Mac**: Port will start with a serial connection 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.
    - **Example**: 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 it if needed.
- **Stop**
  Stops the conduction graph.
- **Save**
  Prompts the user to enter a file to save the conductance data under.
    - **Saved columns order**: Time (ms), conductance, X coordinate, Y coordinate, Z coordinate.
- **Scale**
  Adjusts the displayed size of the conductance graph.

Camera Controls

- **Connect**
  Connects to the specified camera.
- **Disconnect**
  Disconnects from the camera.
- **Capture**
  Starts the 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**
  Takes a photo and labels it with the current time.
- **Start/Stop Video**
  Starts and stops video recording.
  - **Saves as** `<time>.mp4`.
- **Pause**
  Pauses the video recording.

Pump Controls

- **Baud Rate**
  The measure of the speed of data transmission between two devices.
- **Connect**
  Attempts to connect to the pump under the specified port and baud rate.
- **Constant Flow Rate**
  Select to run with a consistent flow rate.
- **Disconnect**
  Disconnects from the pump.
- **Dwell Time**
  Time at dwell position.
- **Flow Rate**
  The quantity of fluid passing through a cross-section of a pipe in a specific period of time.
- **Flow Rate Program**
  Additional flow rate control options.
- **Port**
  The port used for the pump connection.
- **Sampling Rate**
  The rate at which samples are taken.
- **Set Flow Rate**
  Sets the flow rate for the pump.
- **Set Size**
  Sets the size for the pump operation.
- **Set Volume**
  Sets the volume for the pump operation.
- **Start**
  Starts the pump operation.
- **Stop**
  Stops the pump operation.
- **Syringe Size**
  Specifies the size of the syringe used.

- **Volume**
  Specifies the volume for the pump operation.
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