Tantillus

The Portable
Open Source 3D Printer
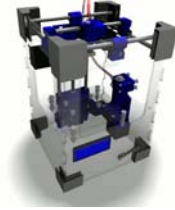
Home
Gallery
FAQ
Store
B.O.M.
Build guide
Tutorials
Calculator
Downloads
Links
Support

Start   **Case**   **X/Y Axis**   **Extruder**   **Z Axis**   **Electronics**   **Setup**
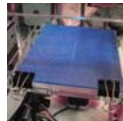
Hardware

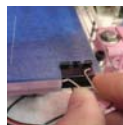## Preparing the build surface

1. Cover the glass plate with Blue painters tape.
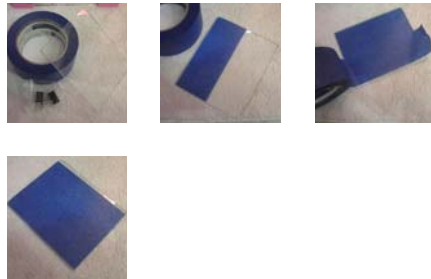
2. Clip the taped glass build plate to the upper bed using two bulldog clips.
   If the glass does not fit between the bolt heads loosen the bolts and push them to the outside as far as possible.

3. Remove the arms from the two bulldog clips to prevent them from contacting the LCD screen.

↑TOP↑

Levelling the bed

1. Position the XY carriage in the front left corner.

2. Raise the bed manually by turning the threaded rod by hand until the bed contacts the glass bed surface.

3. Using a regular sheet of paper as a feeler gauge, slide it under the nozzle and adjust the front left bed bolt until the paper slides under the nozzle with moderate friction.

4. Position the XY carriage in the front right corner.

5. Adjust the front right bed bolt until the sheet of paper slides under the nozzle with the same amount of friction as the front left.

6. Repeat for the rear left and rear right.

7. If you had to adjust any of the corners by more than one complete turn of the adjustment nut, repeat steps 1 - 7.

Software

Kisslicer

Currently the recommended version of Kisslicer is only available if you sign in to Kisslicers forum as it is still in Beta. Older versions are available without signing in and the new version will be available that way soon.

1. Download Kisslicer for your operating system and place in its own folder.
   - Kisslicer forum for Beta release (1.1.0).
   - Kisslicer download page for older release (1.0.9).
2. Download Tantillus config files.
3. Place Tantillus config files in the same folder as Kisslicer.
4. Run Kisslicer from its folder.
5. Click the "load" button and select the STL file to be sliced.
6. Click the "slice" button.
   You will need to save the Gcode after slicing by pressing the "save" button unless you choose "preferences" "slice and save as" from the menu.

↑**TOP**↑

1. Download and install the Arduino IDE.
2. Select your board type in Arduino menu under "Tools, Board"
   Arduino Mega 2560
3. Connect the board to the computer with a USB cable.
4. Select the port in the Arduino menu under "Tools, Serial Port".
   Windows users that are having trouble with the driver install please see here for driver instalation instructions.
5. Download the preconfigured copy of Marlin firmware for Tantillus.
6. Open the Arduino IDE and open the Marlin firmware folder and select Marlin.pde.
7. Click the upload button located near the top.
   Square box with an arrow pointing to the right

Pronterface

1. Download and install Pronterface as per instructions found on Pronterface GIThub page.
   Precompiled Windows and Mac versions available. Please note these are not always the most current version.
2. Start Pronterface.
3. Select the port used.
4. Set Communication speed to 115200.
5. Press connect.
   You should see a message in the right panel when connected.
6. With the machine UNplugged postion the carriage in the back right corner (Home).
7. Using the control panel test the axis.
   The X axis should move towards the left when +(1, 10, 100) is pressed.
   The Y axis should move towards the front when +(1, 10, 100) is pressed.
   The Z axis should move downwards when +(1, 10, 100) is pressed.
   The E axis should turn counter-clockwise when "extrude" is pressed.
   If any of them move backwards, you will need to unplug the machine and turn the motors plug around 180 degrees.

   ◦ If you find that the motors do not move as expected it may be due to the current being set incorrectly on the stepper driver.
   ◦ To adjust the current we are going to need a small screw driver (preferably plastic or ceramic) to adjust the little dial (potentiometer) on the stepper driver.
   ◦ Being very careful not to touch anything other than the little dial (potentiometer) we want to turn the potentiometer to the lowest setting as pictured.
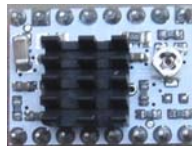
   ◦ Now you will click the +100 and then the -100 for the axis being set.
   ◦ If it did not move either direction we want to turn the potentiometer clockwise 1 degree and re-test.
   ◦ Adjust the potentiometer until the axis moves all the way in each direction.

↑**TOP**↑

If you can not get it to go the entire 100mm in each direction the smooth rods may need lubrication.

Once you find the setting that allows the axis to move properly you may notice a high pitch noise.

- To reduce the high pitch noise you want to adjust the potentiometer just a tiny bit in either direction until the noise goes away and the axis still moves.
- There is a good chance that the potentiometer will be in the same or close to the same orientation on all the drivers.

Pre-Print setup

1. With the machine UNplugged postion the carriage in the back right corner (Home).
2. Clear any debris left in the print area from the last print.
3. Bed prep.
    1. Apply new tape to the bed if it is heavily damaged.
    2. If the tape is dirty, clean it lightly with acetone or nailpolish remover.
       Nail polish remover should have no color, fragrance or additives.
       Only a very light quick wipe is required. Do not let it wet the surface of the tape or you will remove the coating from the tape.
4. Filament prep.
    1. Loading.
        1. Using the LCD or Pronterface, pre-heat the hotend to at least 190c for PLA.
        2. Slide the piece of PTFE tubing you cut from the Bowden tube over the filament.
           This is to lower the fricton of the filament going through the hole in the case.
        3. Insert the end of the filament through the hole in the front panel on the right side.
        4. Insert the end of the filament into the small hole in the back of the extruder body.
        5. Using the LCD screen and encoder enter the "Prepare" menu and go to "LOAD filament" and press the encoder button.
        6. While pressing firmly on the back of the filament click "YES" in the load filament menu.
        7. If you are changing colors or were slow at loading the filament, you may need to proceed to the purge section below.
    2. Un-loading.
        1. Using the LCD or Pronterface, pre-heat the hotend to at least 190c for PLA.
        2. If the machine has been off for more than 10 minutes, it is best to purge some plastic before unloading.
           See section 3 below for purge instructions.
        3. Using the LCD screen and encoder, enter the "Prepare" menu and go to "UNLOAD filament" and press the encoder button.
        4. In the "UNLOAD filament" menu click "YES".
    3. Purge.
        1. Using the LCD and encoder, enter the "Prepare" menu and go to "Move axis".
        2. In the "Move axis" menu go to "extrude" and press it until a few cm of plastic has been extruded.
           I will be adding a purge button to the menu.

↑TOP↑

1. Adjusting the LOAD length.

1. If you find that it does not LOAD or UNLOAD enough (or too much), you can adjust the set length in the firmware.
2. Load Marlin in the Arduino IDE the same way as in the Firmware section.
3. Go to the tab marked configuration.h.
4. In the configuration.h file search for "bowden".
5. Increase or decrease the Bowden_length in increments of 10 uploading and testing after each change.
   You may need to repeat this after calibrating the extruder in the next step.

Tutorials

All artwork and videos © Tantillus.org 2012

↑TOP↑