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Zarplotter v2 assembly

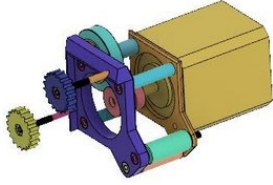
Full assembly of a working Marginally Clever Zarplotter

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INTRODUCTION

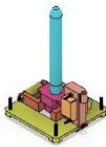
This guide should empower you to assemble your Zarplotter to start your first drawing.

Step 1 — Corner assembly



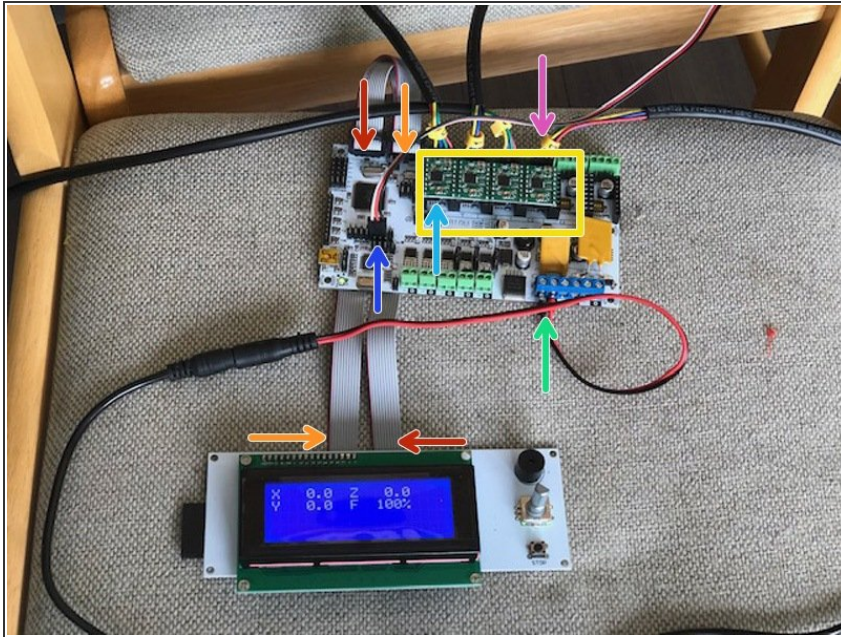
- The pulley attaches to the motor shaft with two set screws.
- The order of operations is important. Follow the video!

Step 2 — Assemble the pen holder



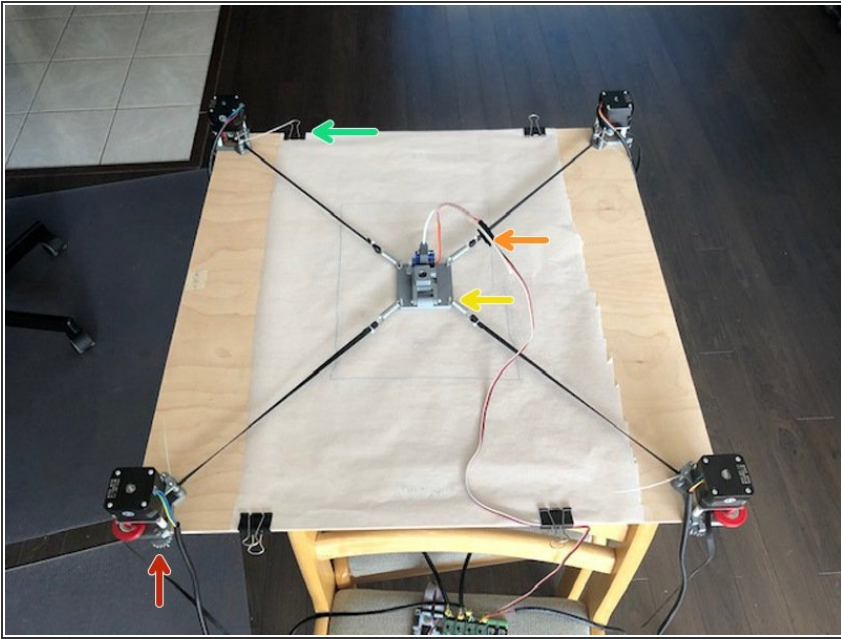
- Insert wisdom here.

Step 3 — Connect wires to controller



- Connect female power plug, red wire to +.
- Attach LCD cables. Note orange and red cables swap sides AND flip over. Same as Makelangelo. If power is connected the LCD will only light up in the correct wiring.
- If required, with power off, remove all four driver chips and make sure all three DIP switches are pressed down.
- With power off, adjust the dial on each chip. A multimeter reading between the dial and the bottom right pin of each chip should read 0.17v when power is on. DO NOT turn the dial when power is on.
- With power off, connect each motor. The yellow wire must be on the left.
- Connect the servo extension cable to pins in the EXP3 zone. There is a small black arrow on the right end of EXP3. The cable connects on the bottom row, with the black wire on the right (one pin under the arrow)

Step 4 — Final assembly



- i** We do not supply the board on which you will draw. It should be square, flat, and smooth. Measure it and mark the center for later. The board pictured is 600mm*600mm and is good for an A4 drawing.
- tighten the clamp screws to hold the motors on each corner. the first motor is NW, the second NE, the third SW, the fourth SE. The order is very important!
- Feed timing belt around a pulley, through the idlers, and out to the pen holder. Maintaining tension is crucial to accurate drawings.
- Attach the servo extension cable to the servo. The extension cable white/red/black should connect to the servo orange/brown/red.
- Alligator clips are a great way to hold your paper down during drawing, and can also make sure the servo cable does not catch on anything.

Step 5 — Install firmware (optional)



- If you purchased your zarplotter from us then your firmware is already installed.
- You can download it from <https://www.marginallyclever.com/product...>
- All upload steps are the same as our makelangelo firmware update tutorial EXCEPT that in `configure.h` you have to change **`#define MACHINE_STYLE POLARGRAPH`** to say **`#define MACHINE_STYLE ZARPLOTTER`** before upload.

Congratulations! Your zarplotter components are assembled. Now get drawing with the Makelangelo software. Don't forget to tag your posts with `#zarplotter`, `#plotter`, or `#makelangelo` so we can like them!