3D Printing Stuff

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- New Printer Marlin Setup

Esteps Calib

- Load Filament (bright color recommended)
- Find out `M92  E` esteps with `M503`
- From base of extruder, mark point at 120mm/12cm
- Set local coords and extrude 100mm@1mm/s

```
M83         ; E relative mode
G1 E100 F60 ; Extrude 100mm @ 1mm/s (60mm/min)
```

- When extrusion finished, measure from base to mark.
- Calculate new esteps using previous measurement x: $E_{new} = E_{orig} \cdot \frac{100}{120-x}$
- Set new value with `M92` (ie. `M92  E421`).

X/Y Offset (Marlin)

```
G28                         ; home
G0 X[x offset] Y[y offset] ; move to proper bed origin
M428                        ; set current pos as bed origin
M500                        ; write to EEPROM
```

Marlin UBL

Kinda nice compared to Bilinear, but its poorly explained... Firstly, manually level. Next:

```
G28        ; home
G29 P1     ; auto probe
G29 P3     ; interp. pts
G29 F10.0  ; set fade height to 10mm
G29 S0     ; save mesh in slot 0
M500       ; save to EEPROM
```

Then for start gcode excerpt

```
G28          ; home all axes
G29 L0       ; load mesh slot 0 (enables UBL so G29 A is redundant)
G29 J2       ; 4-pt co-planar mesh align level
```

From:
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Last update: **2026-05-16 Sat 18:41**