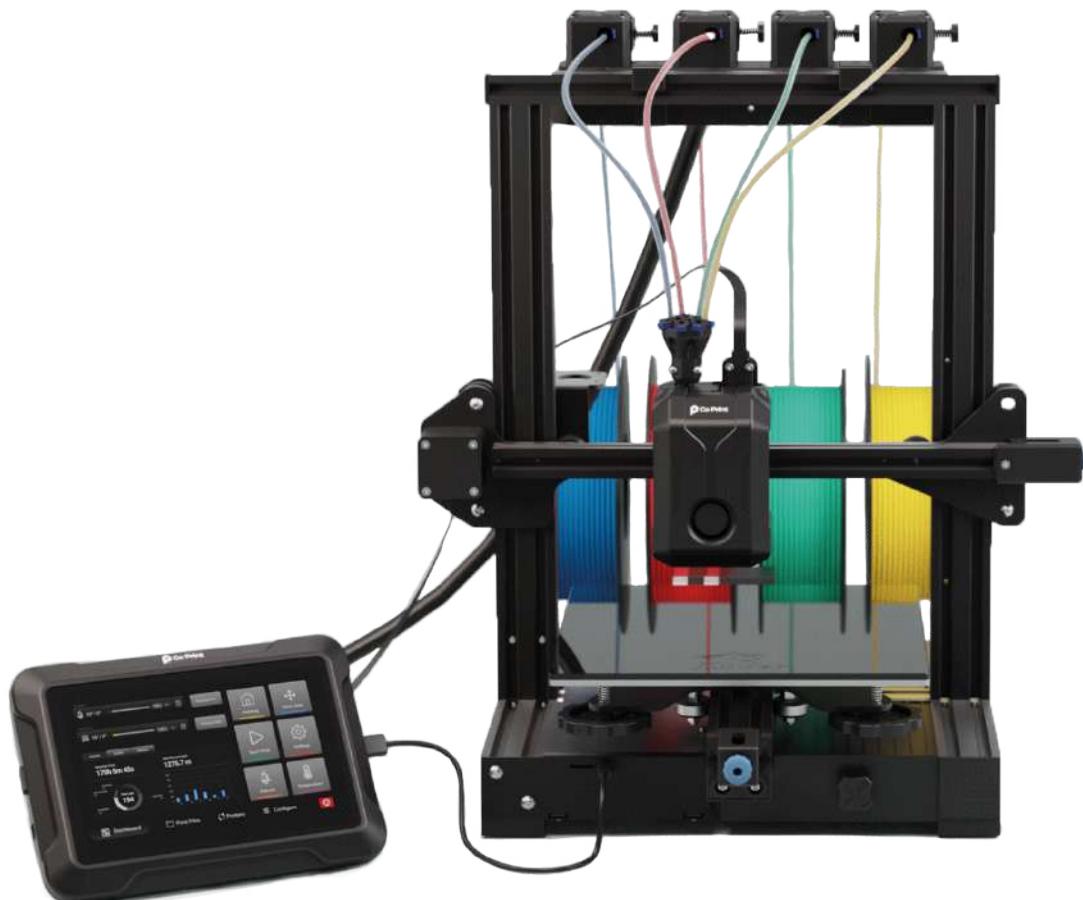




Chroma Set

User Manual



Content

Dear Consumers,
Thank you for choosing Co Print.
For the best experience with Co Print Products, please read the instructions before use. Our support team is always ready to provide you to give best services. When you encounter any problem with Co Print, please feel free to contact us from our website and e-mail address.

1

Installation

1.1

Mounting ChromaHead

1.2

Mounting CX-I Extruders

1.3

Mounting ChromaPad

2

ECM Installation

2.1

Mounting ECM

3

Explanation Of Interface Sections

3.1

ChromaScreen Interface

4

Printing

4.1

Before Printing

4.2

First Printing

ChromaSet Safety and Usage Guidelines

1. Prioritize Safety: To prevent accidents and avoid damage to the printer or surroundings, always follow the provided instructions when using the ChromaSet.

2. Optimal Setup Placement: During installation, place the printer in a well-ventilated, cool, and dust-free environment, away from heat sources, flammable materials, and explosive objects.

3. Stability for Precision: Ensure the printer is placed on a stable surface to avoid vibrations or instability, which could negatively affect print quality.

4. Use of High-Quality Filaments: For optimal performance, use high-quality filaments. Unapproved filaments may cause nozzle clogging and damage to printer components.

5. Secure Electrical Connections: Do not use power cables from other devices during installation. Always connect the printer to a grounded three-prong outlet with the provided power cable.

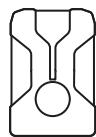
6. Operational Safety: Avoid touching the heated nozzle or build plate during operation to prevent burns or personal injury.

7. Routine Cleaning of Printer and Accessories: Clean the printer regularly. After turning it off, use a dry cloth to wipe the printer body and guide rails, removing dust, filament residue, and other particles to maintain optimal performance.

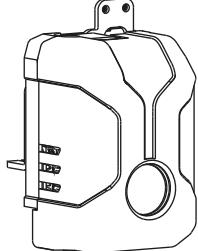
8. Safe Wiring Practices: For safety, avoid plugging or unplugging cables while the printer is powered on. Perform all wiring tasks only when the printer is powered off.

Part List

What's in the boxes?



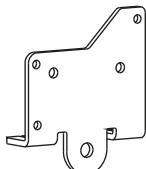
● ChromaHead



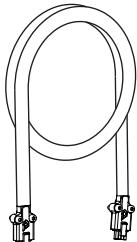
① Chroma Head 1x



② 8 in 1 module 1x



③ Connection Sheet 1x



④ Chroma Head Cable 1x



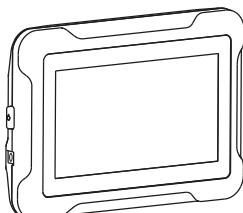
⑤ Metric 3x10 screw 5x



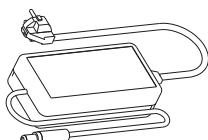
⑥ 8 in 1 Connection Fittings 8x



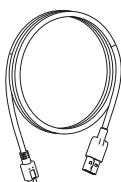
● ChromaPad



① Chroma Pad 1x



② Power Adapter 1x



③ USB to Micro Cable 1x



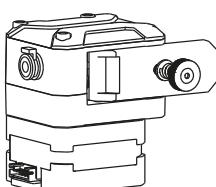
④ USB to Type-C Cable 1x



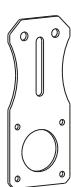
⑤ Input Shaper 1x



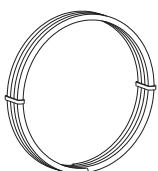
● CX-I Extruder
(4 pieces)



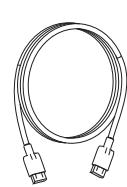
① CX-I Extruder 1x



② Sigma Metal Sheet 1x



③ PTFE Tube 1x



④ CX-I Motor Cable 1x



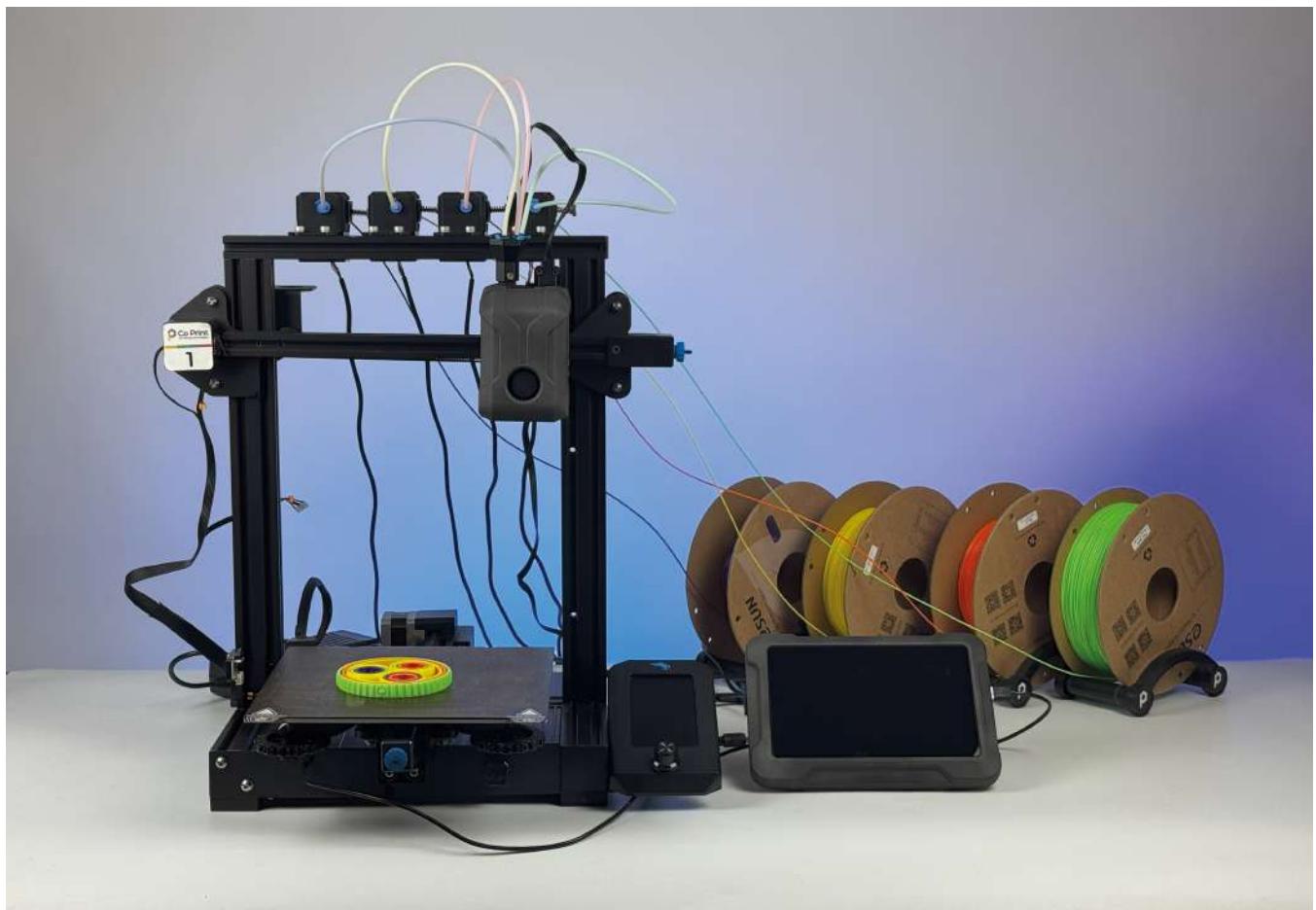
⑤ Metric 5x10 screw 2x



⑥ T-nut 2x

ChromaSet

ChromaSet is designed to enable multi-color printing for non-Klipper based 3D printers. In addition to multi-color printing, it significantly increases printing speed and quality. Thanks to the ability to control 8 printers, it allows you to operate 8 printers simultaneously. In this content, you will find information on how to install ChromaSet on a 3D printer and how to take your first print.



1

Installation

First, we start the installation by making the mechanical connections of the Chroma Set.

1.1

Mounting ChromaHead

There are two different types of connections for ChromaHead, for Sigma profile printers and for non-sigma profile printers. Here, we will explain it from the sigma printer and information on how to connect ChromaHead to non-sigma profile printers is available on our wiki page.
<https://wiki.coprint3d.com/assembling-disassembling-chromahed-on-nonsigma-profiles>



Before starting this process, you need to remove the original print head of your printer. How to do this is explained on our wiki page for Ender 3 V2. Please visit our wiki page.
<https://www.youtube.com/watch?v=9BxbM5RNxHA>

1- As a second step, you should remove the metal of your printer's print head and remove its screws and wheels. The screws and wheels you remove will be used in the connection piece that comes out of the box.

1.1

Mounting ChromaHead

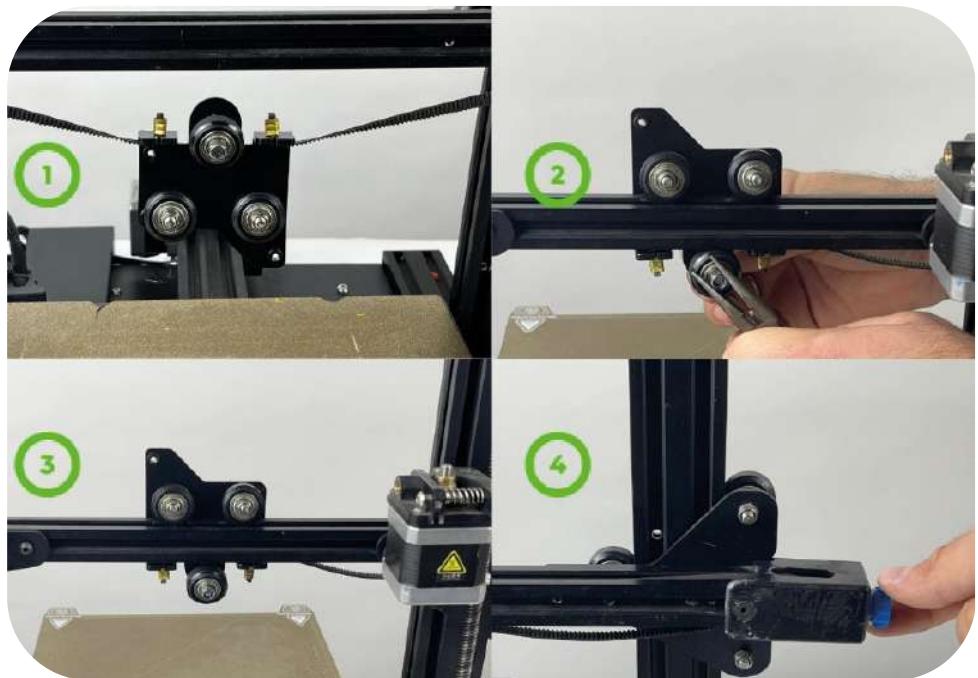
2- Attach the screws and wheels you removed to the new connection piece that came out of the box as shown in the photo. Tighten the screws of the wheels on the top.



1.1

Mounting ChromaHead

- 3- Attach your printer belts to the connection piece.
- 4- Place the connection part in its place and tighten the wheel at the bottom with the help of M4 Allen.
- 5- Then tighten the belt from the mechanism on the right side of your printer.

**1.1**

Mounting ChromaHead

- 6- Take the ChromaHead in your hand and open its front cover.
- 7- Remove the front fan socket of the ChromaHead and separate the cover.



1.1

Mounting ChromaHead

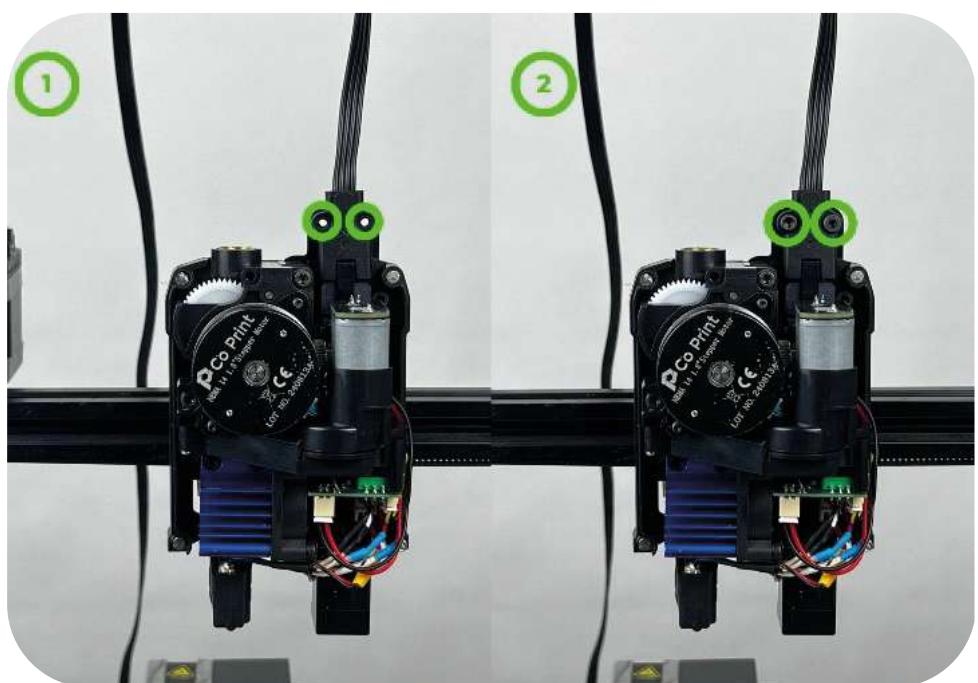
8- Secure the ChromaHead to the connection piece in 3 places using m3x10 screws.

**1.1**

Mounting ChromaHead

9- Plug in the ChromaHead cable.

10- Secure the ChromaHead cable with the m3x10 screw.



1.1

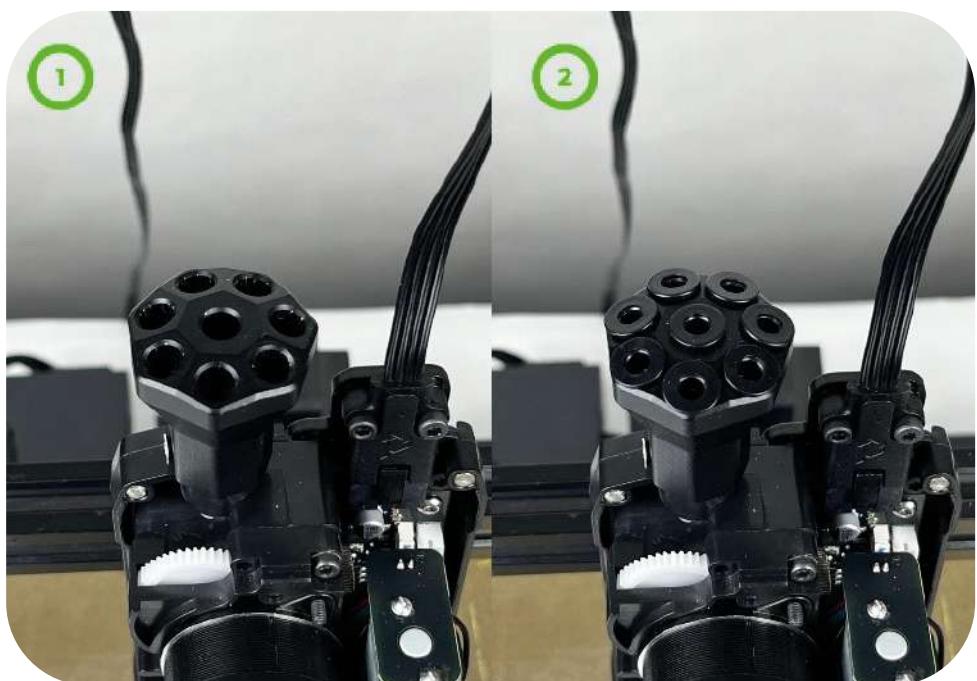
Mounting ChromaHead

11- Mount the 8in1.

**1.1**

Mounting ChromaHead

12- Install the fittings included in the 8in1.



1.1

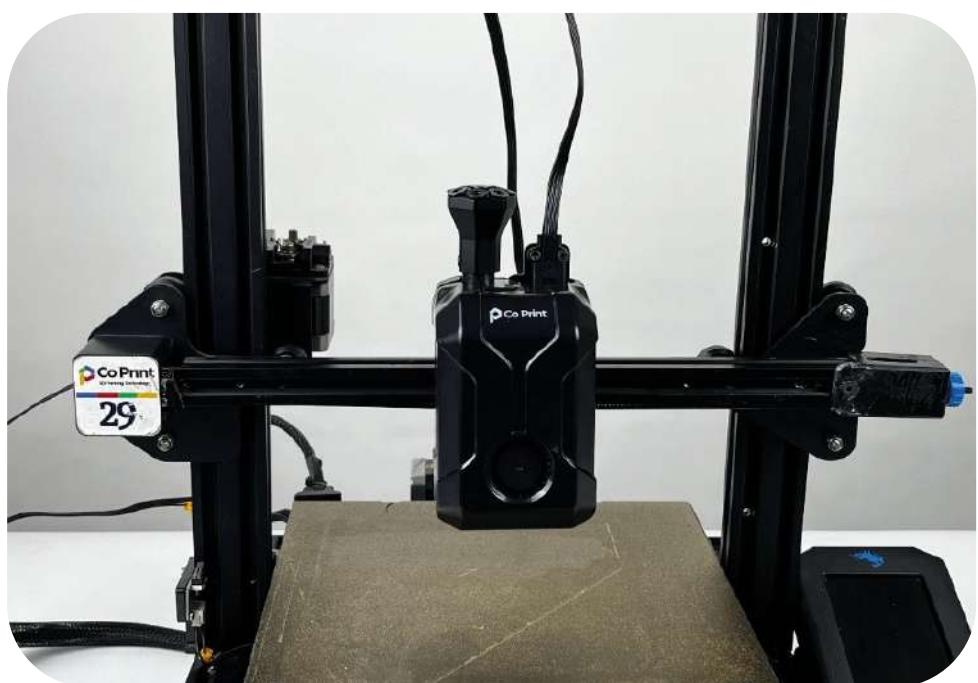
Mounting ChromaHead

13- Connect the fan cable of the front cover and close the cover.

**1.1**

Mounting ChromaHead

14- The ChromaHead installation is complete.

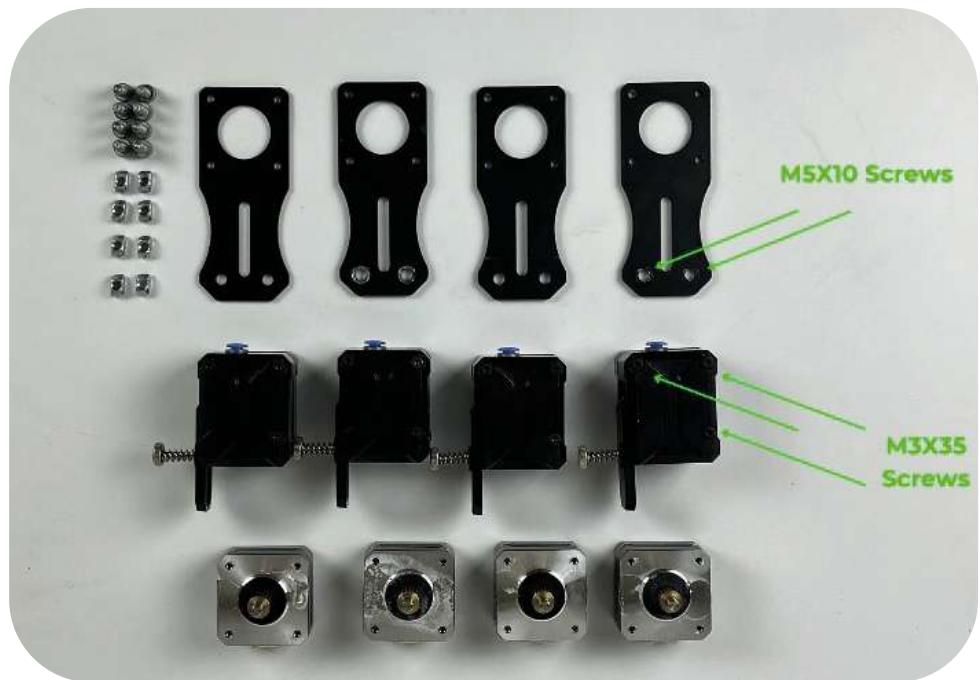


1.2

Mounting CX-I Extruders

The header 1.2 shows how to mount CX-I Extruders on 3D printers which has sigma profile.

- 1 - Remove the CX-I Extruders from the box.

**1.2**

Mounting CX-I Extruders

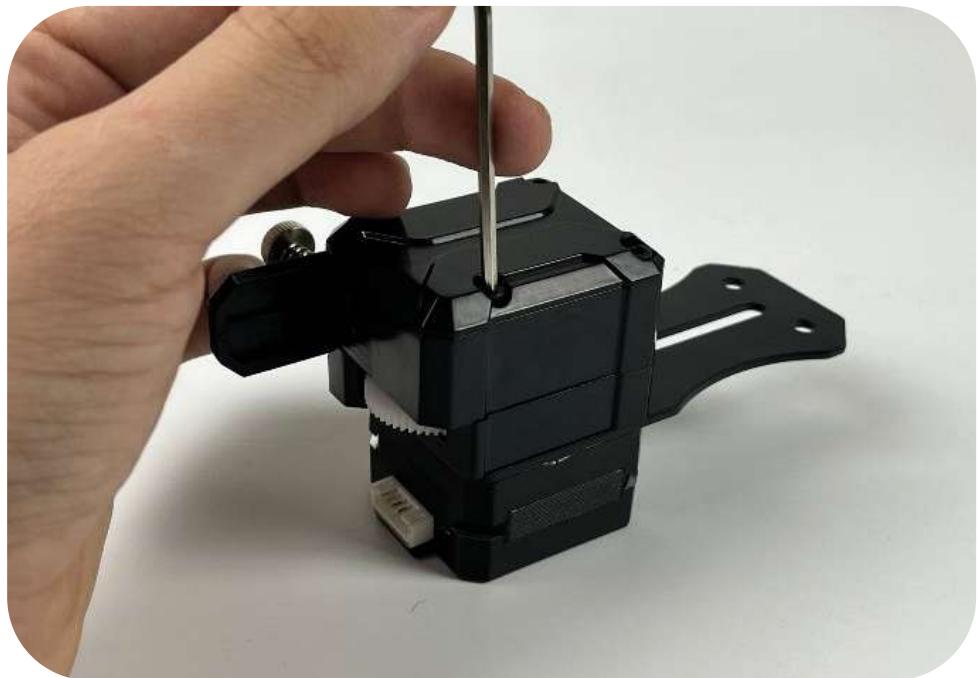
- 2- Assemble the stepper motor, CX-I Extruder, and Metal Sheet as shown in the picture, and perform the same process for all four.



1.2

Mounting CX-I Extruders

3- Insert three M3X35 screws into the holes on the CX-I and tighten them using an M3 Allen key.

**1.2**

Mounting CX-I Extruders

4- Perform the same procedures for the remaining 3 extruders.



1.2

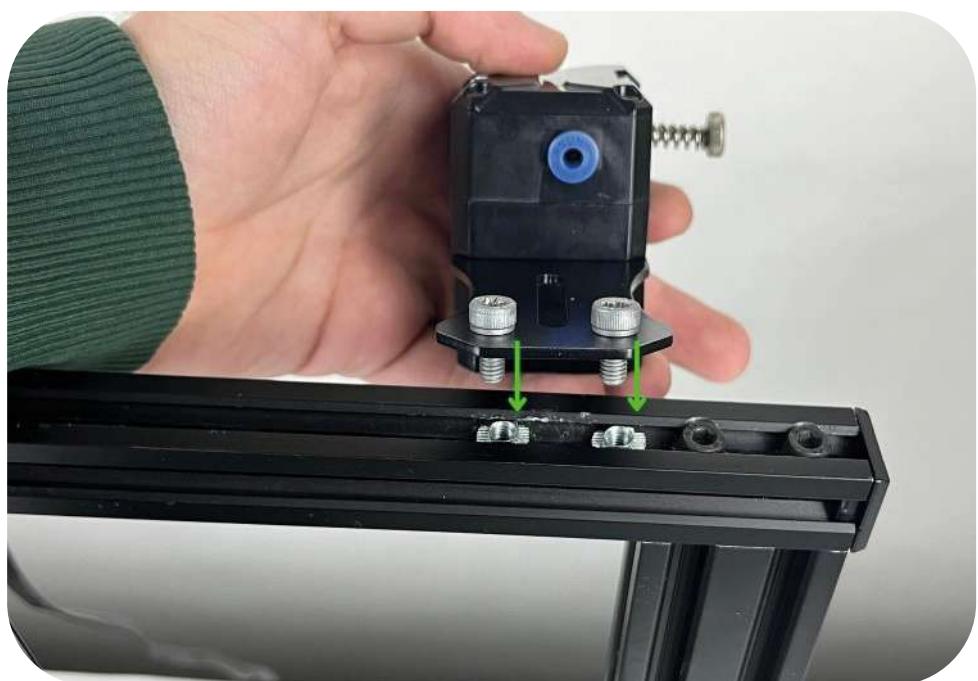
Mounting CX-I Extruders

5- Place T-nuts on sigma profile of 3D printer.

**1.2**

Mounting CX-I Extruders

6 - Insert the M5X10 screws into the metal sheet. Then, position the extruders to align with the T-nuts where you placed the sigma profile.



1.2

Mounting CX-I Extruders

7- Tighten the screws you placed using an M5 Allen key.

**1.2**

Mounting CX-I Extruders

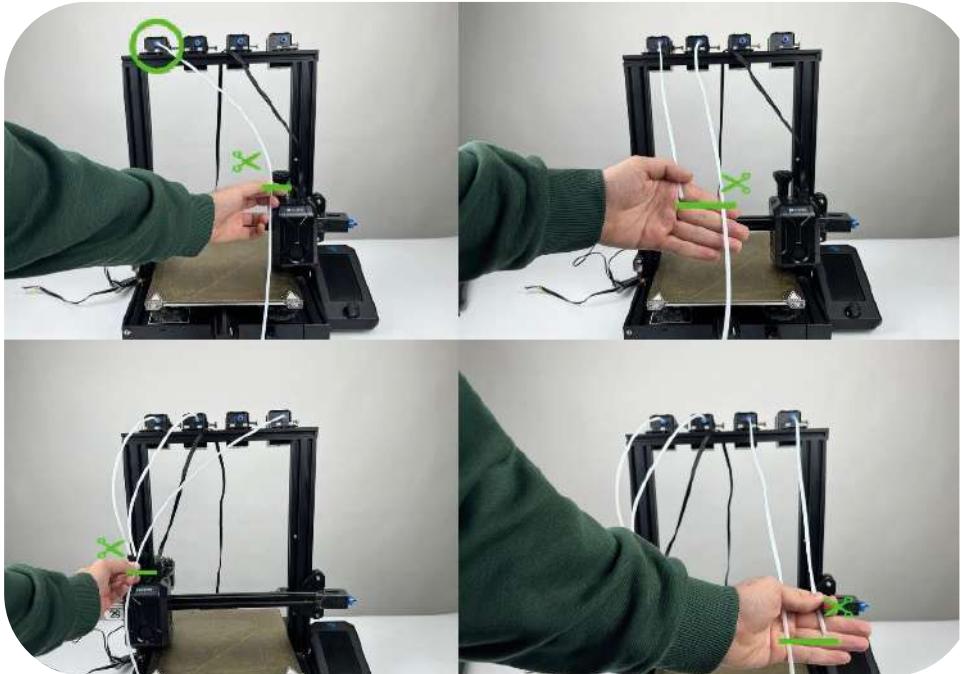
8 - For the remaining 3 extruders, position them with gaps in between to allow for the clamps to open, and then tighten the screws.



1.2

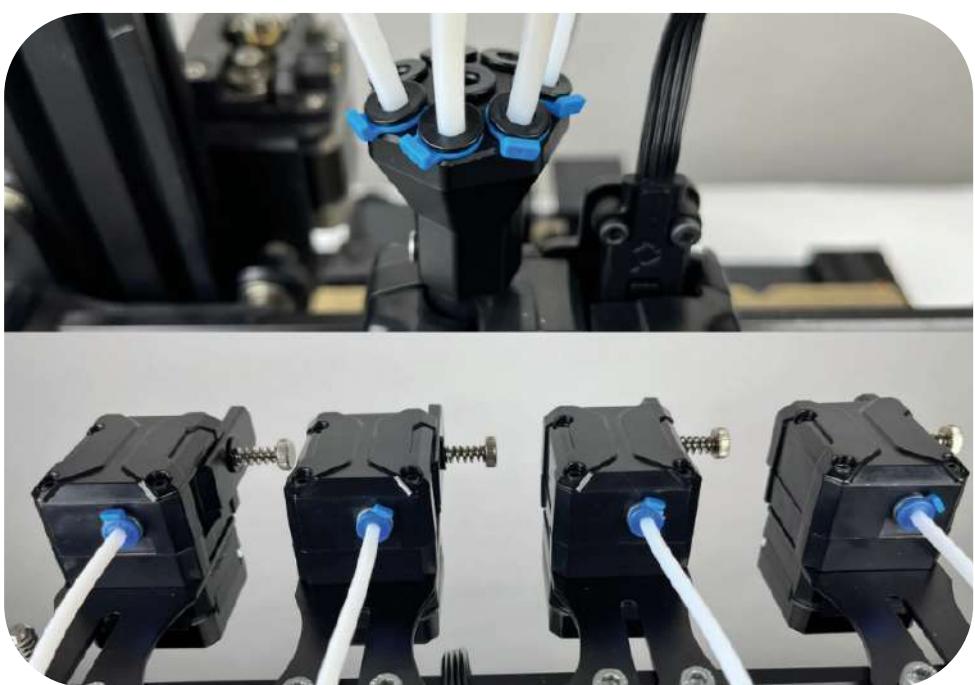
Mounting CX-I Extruders

9 - Attach a PTFE tube to each CX-I Extruder. To adjust the length of the PTFE tube, pull the ChromaHead to the right for the left extruder, then trim it to the desired length. Cut each PTFE tube to the same length and install them onto the 8 in 1 unit.

**1.2**

Mounting CX-I Extruders

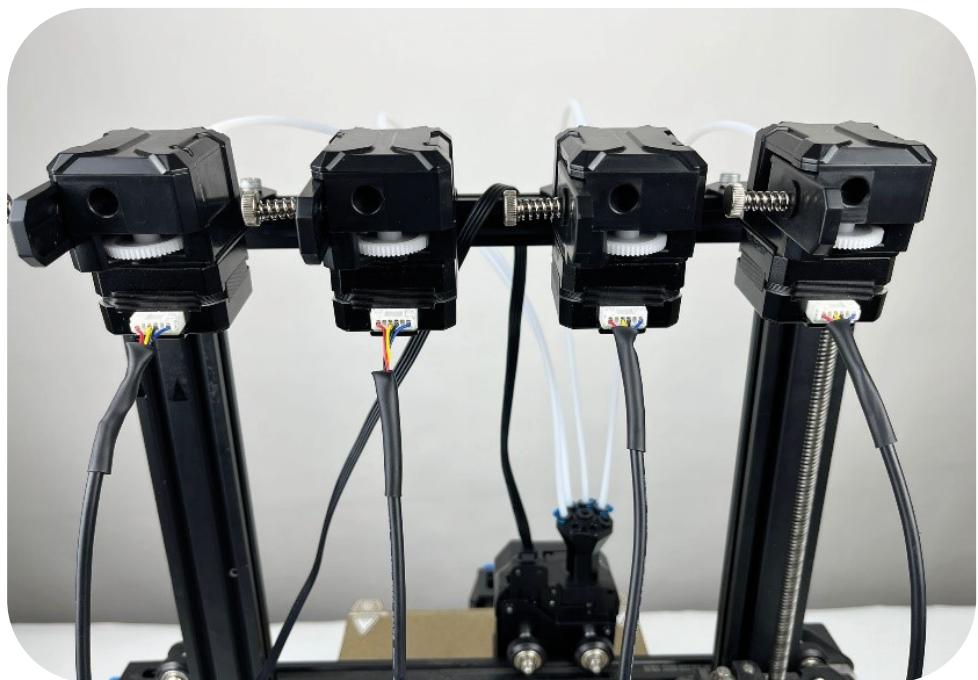
10 - Place the PTFE compressive blue pieces in the box into the locations in the extruder and 8 in 1 section.



1.2

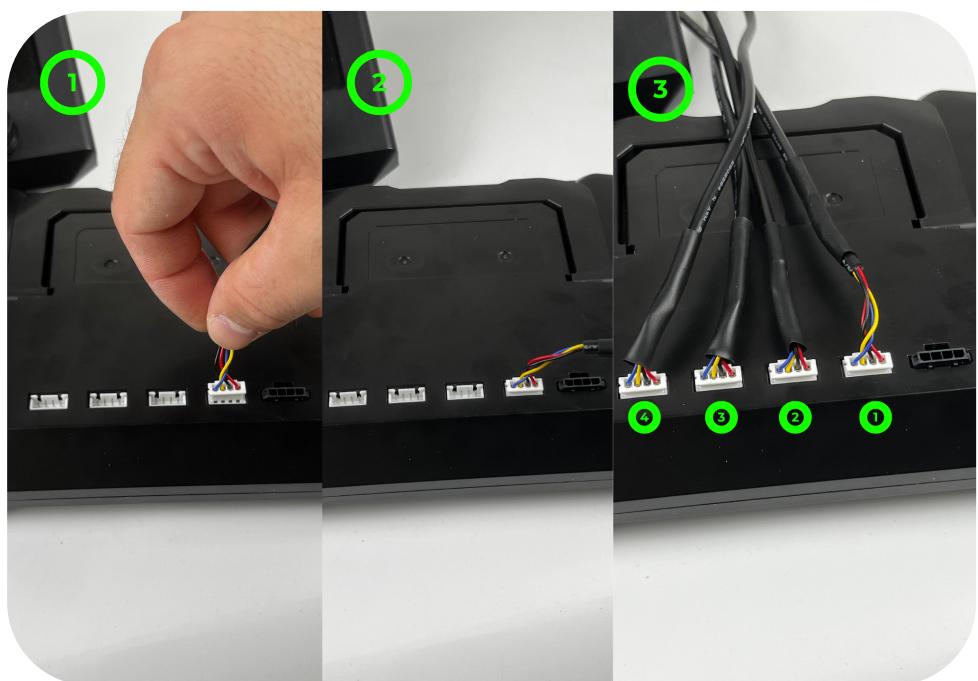
Mounting CX-I Extruders

11 - Connect the CX-I motor cables as in the photo.

**1.2**

Mounting CX-I Extruders

12- Plug the CX-I cables into the ChromaPad as shown in the image.



1.3

Mounting ChromaPad

This step shows the ChromaPad's connection to the ChromaHead and the printer.

- 1- Connect the ChromaHead cable to the ChromaPad.

**1.3**

Mounting ChromaPad

- 2- Connect the power cable to the ChromaPad.



1.3

Mounting ChromaPad

- 3- Wait for ChromaPad to open.
- 4- Select the language you use from the screen that opens.

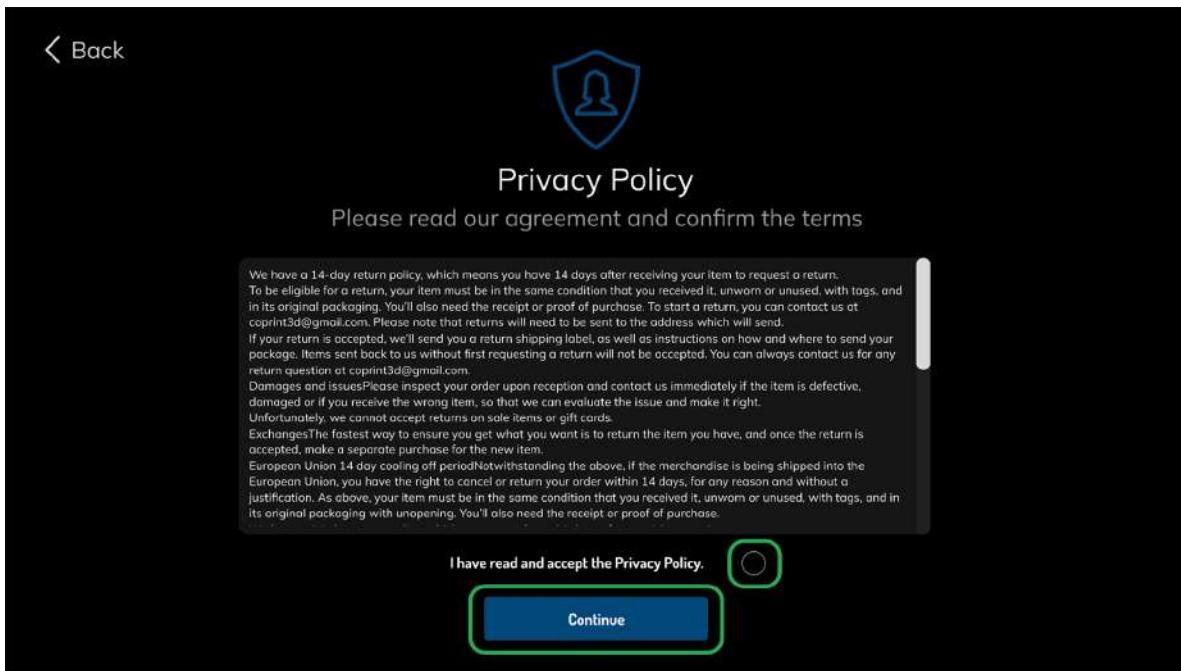


Do not turn on your printer during these operations.

**1.3**

Mounting ChromaPad

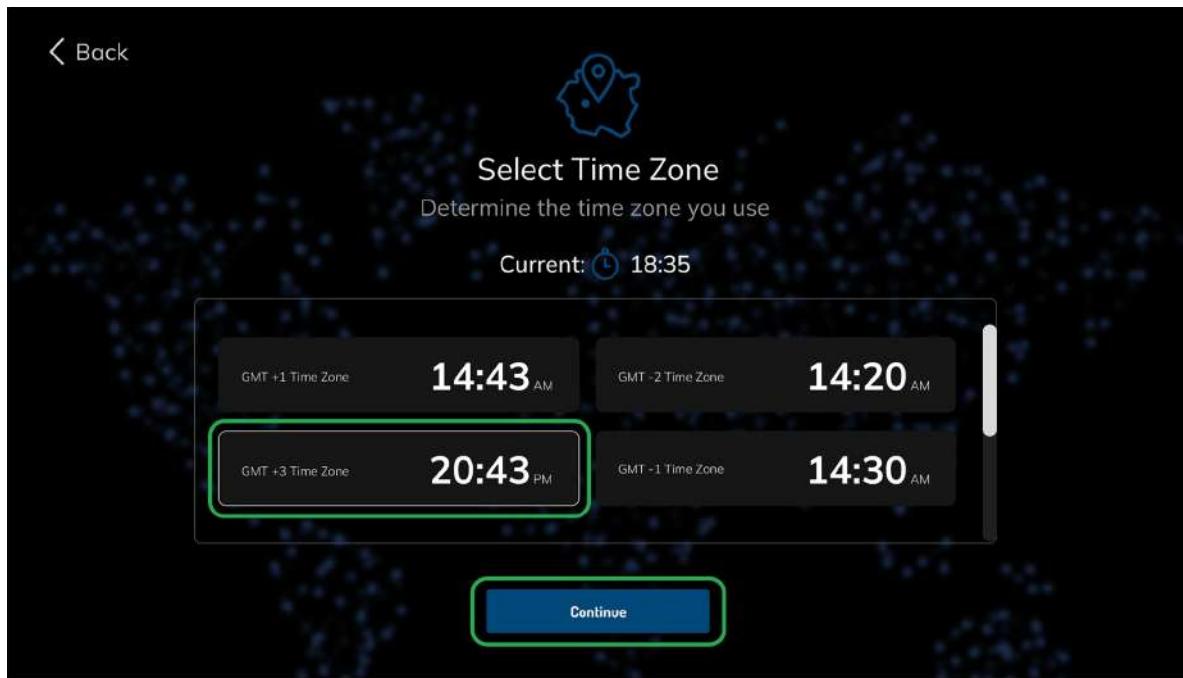
- 5- Approve the privacy agreement.



1.3

Mounting ChromaPad

6- Select the time zone at this stage.

**1.3**

Mounting ChromaPad

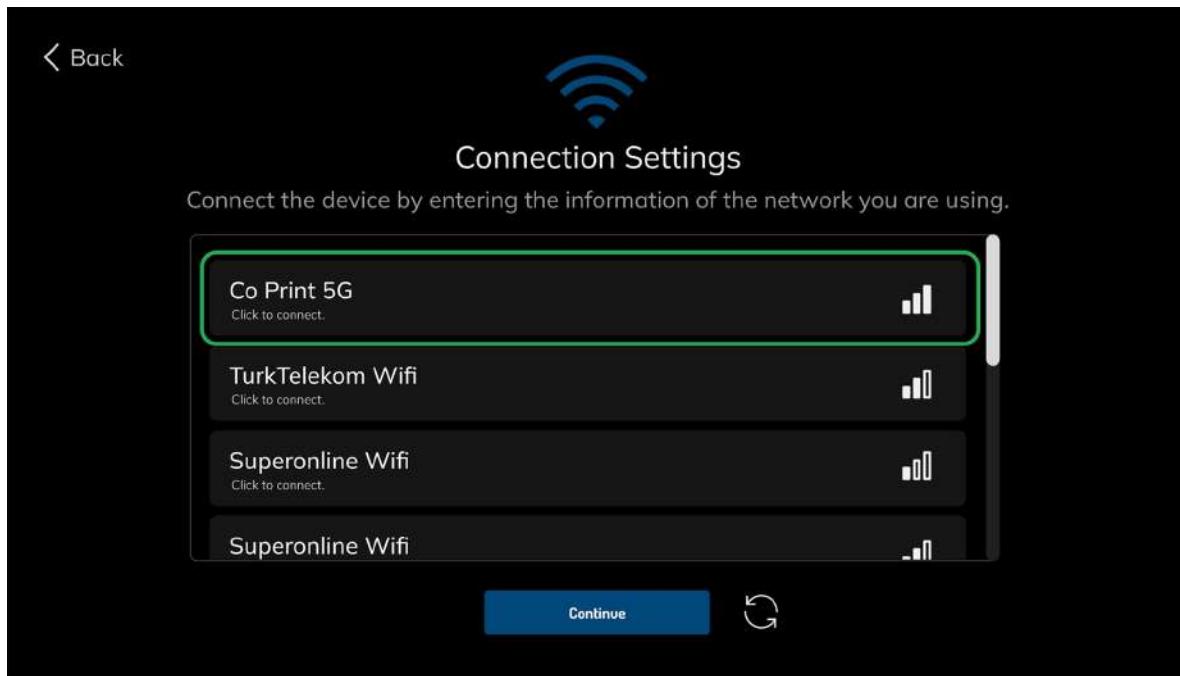
7- You can name your ChromaPad.



1.3

Mounting ChromaPad

8- Connect to the Internet.

**1.3**

Mounting ChromaPad

9- At this stage, the printer selection screen will appear. Select the option that suits your printer and click next.

Note

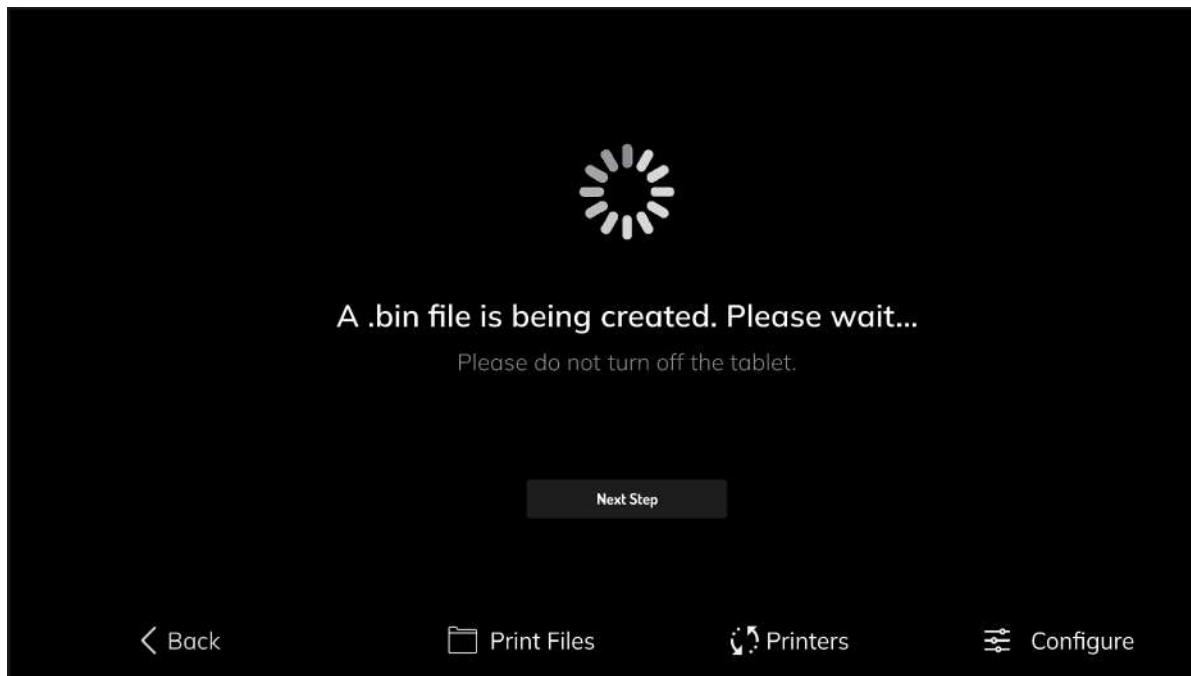
If your printer is not on the list, you can create a firmware file by learning your printer's bootloader options by clicking on "Other Printers".
<https://wiki.coprint3d.com/en/chromaset-setup-guide>



1.3

Mounting ChromaPad

10- At this stage, the .bin file is created.

**1.3**

Mounting ChromaPad

11- On the screen that opens, you need to insert a USB Flash Memory. An SD card is required for the Ender 3 V2 device. Insert the SD card of your printer with a card reader.



No size is required. For example; 256mb, 2gb etc.



1.3

Mounting ChromaPad

12- After inserting, the writing process will take place in the SD card.

**1.3**

Mounting ChromaPad

13- After the writing process is completed, remove the SD card from ChromaPad.



1.3

Mounting ChromaPad

14- Insert the SD card into your printer and turn on your printer.

Note

If only the screen light comes on your printer, it means Klipper is installed. But if the printer screen comes on, it means Klipper is installed incorrectly.

**1.3**

Mounting ChromaPad

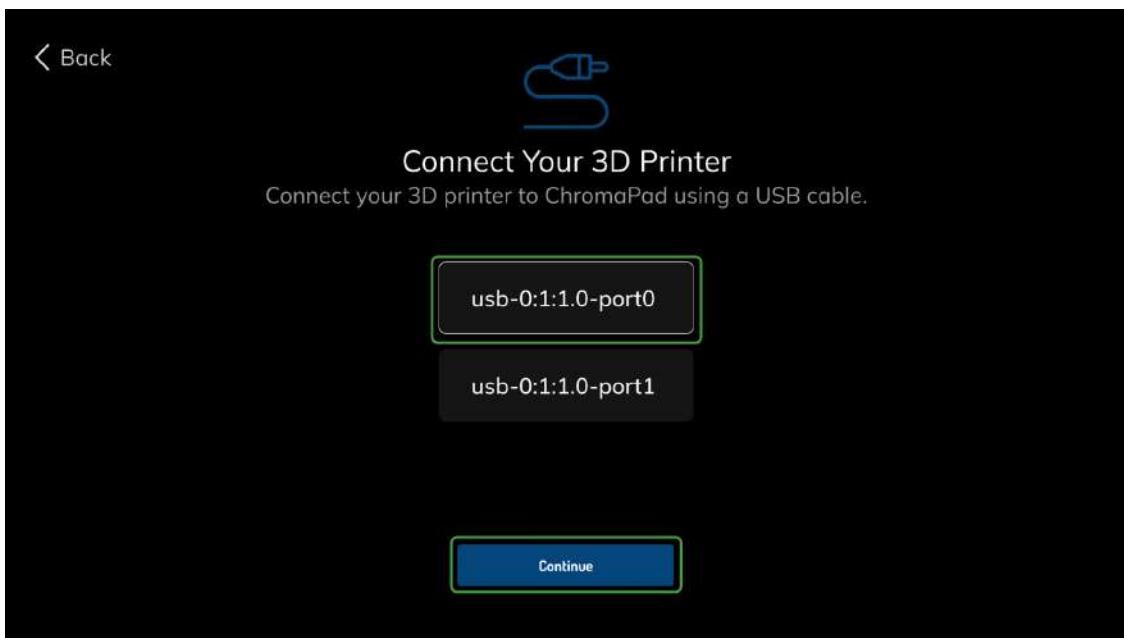
15- Connect your printer to ChromaPad using the micro USB cable included in the box.

16- Select the port to which your printer is connected.

17- ChromaPad installation is complete.



For more detailed information and video explanations, please visit our wiki page.
<https://wiki.coprint3d.com/en/chromaset-setup-guide>



2

ECM Installation

At this stage, it will be explained how to install ECM and 4 extra CX-I extruders. The 4 CX-I extruders you are using and the ones you just installed will not change and will remain in the same format. No action will be taken for your first 4 extruders.

2.1

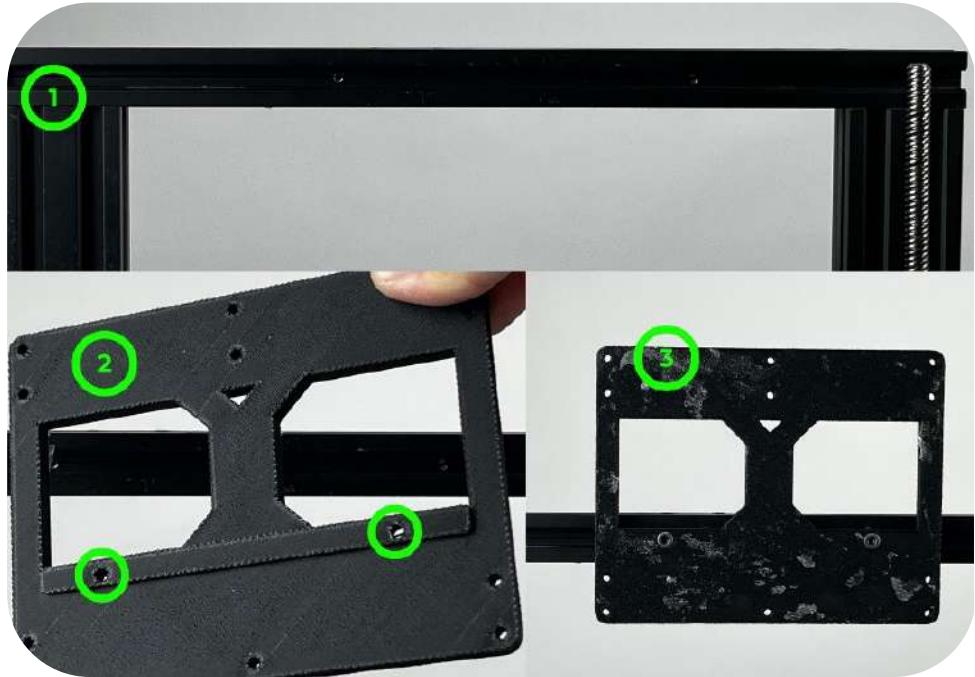
Mounting ECM

- 1- Before starting this process, you must print 2 specially designed 4-piece CX-I Holder and 8-piece CX-I holder parts.

2- Mount the printed 8-piece CX-I holder parts with M4X16 and T-nuts.



For 8-piece extruder connection piece:
<https://github.com/coprint/AssemblingParts/tree/main/Creality/Ender%203%20v2>



2.1

Mounting ECM

- 3- Connect the two 4-piece CX-I extruder holders by using the connection piece. Remember using the square nuts.



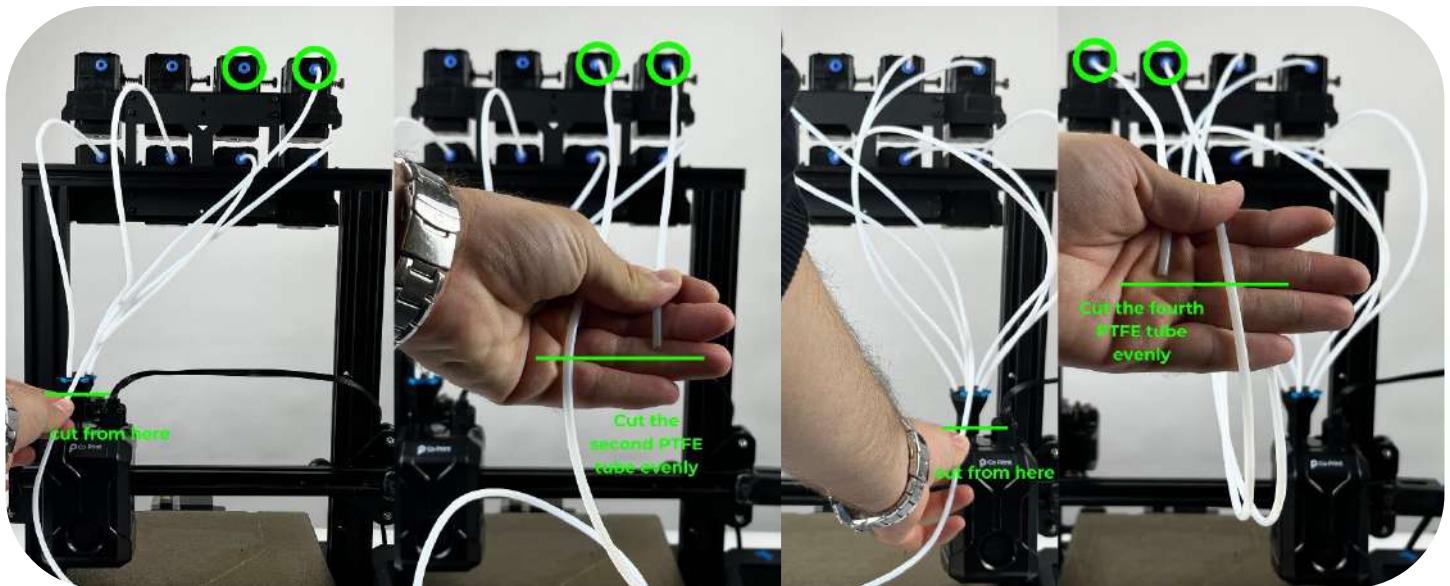
Warning! CX-I Extruders can be mounted in different ways to sigma profiles. This situation may vary slightly depending on your printer model and creativity.



2.1

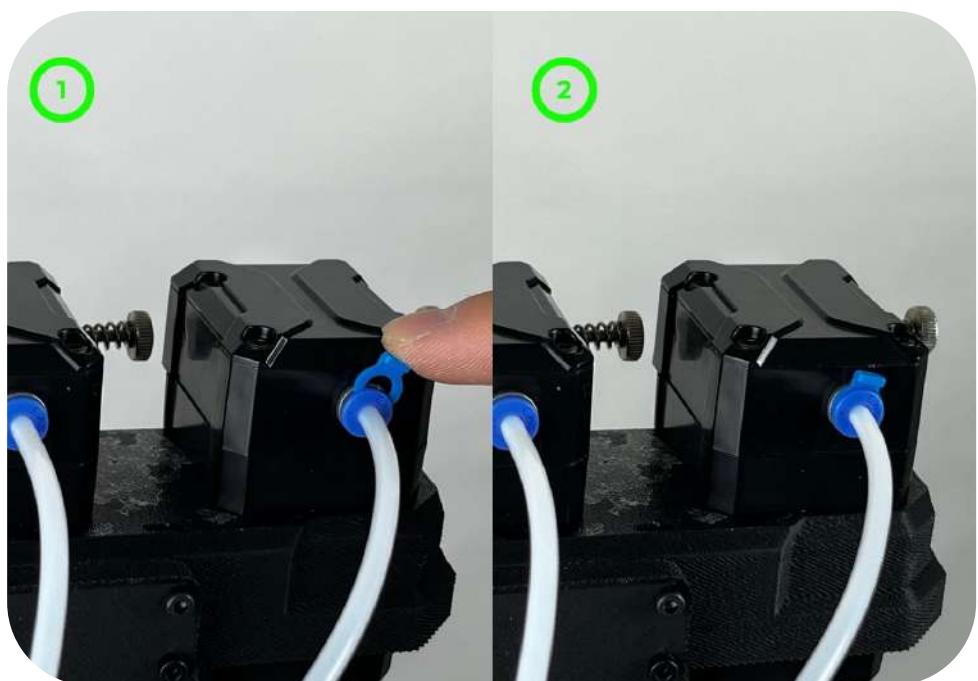
Mounting ECM

4- Cut the PTFE Tubes just like in the picture below. Consider the maximum distance between the 8-in-1 unit and the extruders.

**2.1**

Mounting ECM

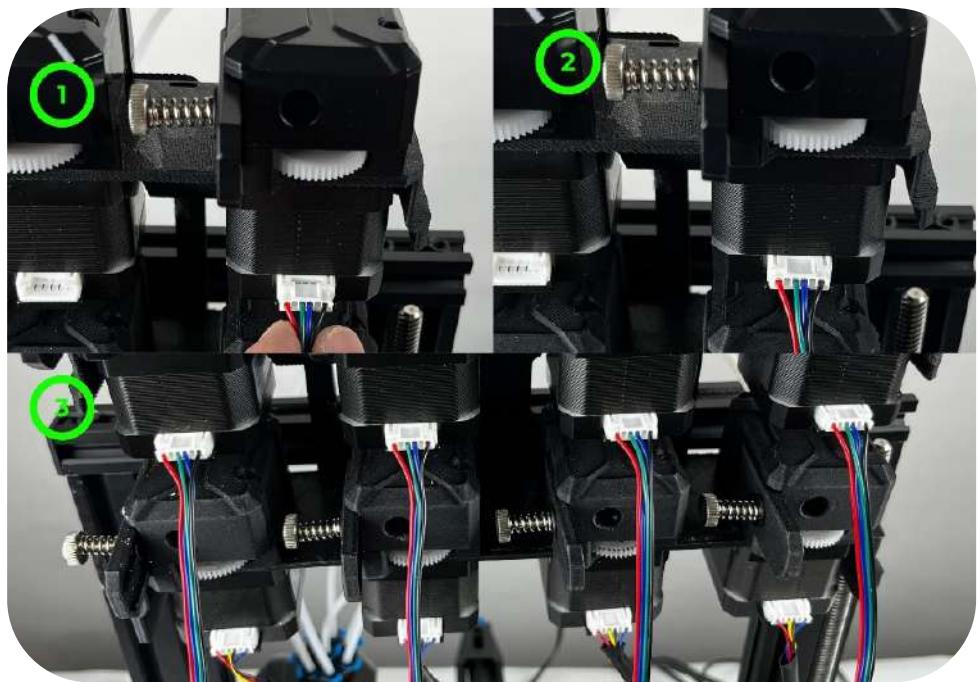
5- Place the PTFE compressed blue parts inside the box in their places in the extruder section.



2.1

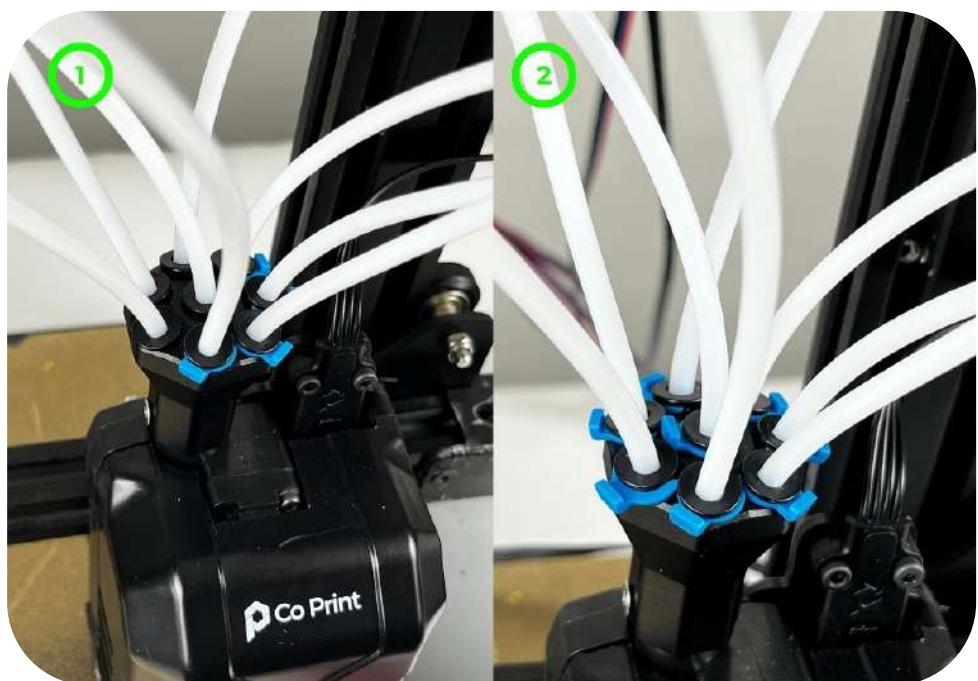
Mounting ECM

6- Plug in the motor cables to stepper motors.

**2.1**

Mounting ECM

7- Place the PTFE compressed blue parts inside the box in their places in the 8 in 1 module.



2.1

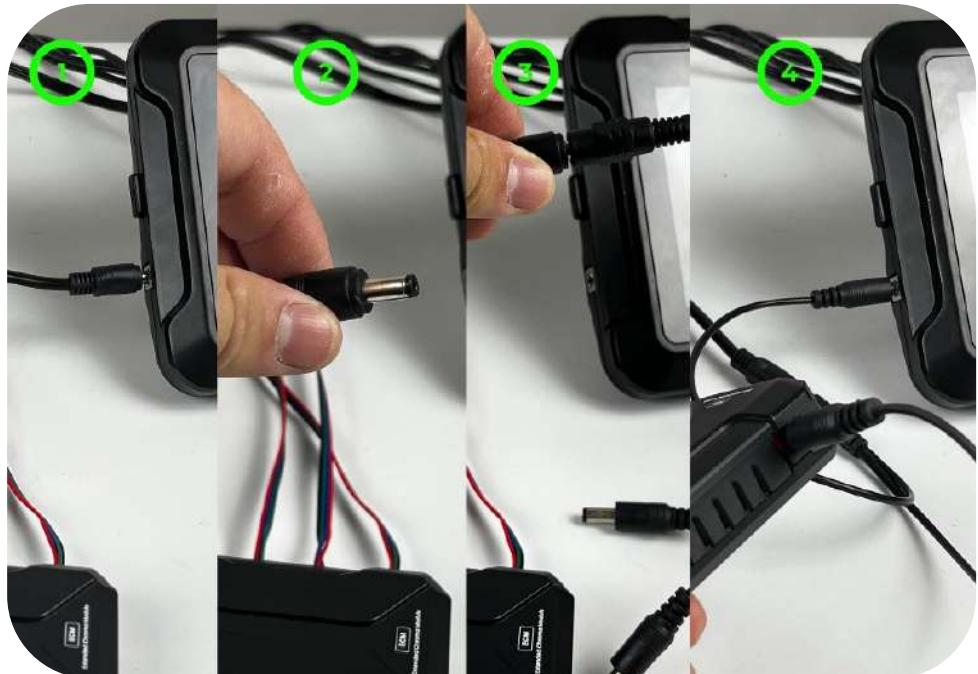
Mounting ECM

8- Connect the motor cables to the ECM. Consider the motor ordering.

**2.1**

Mounting ECM

9- Cut the power of ChromaPad, put a power splitter to the end of power adapter. And then connect the power to ChromaPad and ECM together.



2.1

Mounting ECM

10- Connect the Type-C cable to the ECM.

**2.1**

Mounting ECM

11- Connect other end of Type-C cable to the ChromaPad that you connected to ECM.



2.1

Mounting ECM

12- Determine the path of ECM in Mainsail.

1) Click on "DEVICES".

2) Determine the path of ECM and copy it.

3) Paste the path to the serial section in "[mcu cp_ecm1.cfg]"

```
1 #ecu_1.cfg
2 serials: /dev/serial/by-path/platform-xhci-hcd.3.auto-usb-0:1.0
3 restart_after_nano command
4
5 Tegude_mcu
6 gender:
7 SYNC_EXTRUDER_MOTION_QUEUE=0x2000 EXTRUDER-ex1 MOTION_QUEUE=
8 SYNC_EXTRUDER_MOTION_QUEUE=0x2001 EXTRUDER-ex2 MOTION_QUEUE=
9 SYNC_EXTRUDER_MOTION_QUEUE=0x2002 EXTRUDER-ex3 MOTION_QUEUE=
10 SYNC_EXTRUDER_MOTION_QUEUE=0x2003 EXTRUDER-ex4 MOTION_QUEUE=
11 SYNC_EXTRUDER_MOTION_QUEUE=0x2004 EXTRUDER-ex5 MOTION_QUEUE=
12 SYNC_EXTRUDER_MOTION_QUEUE=0x2005 EXTRUDER-ex6 MOTION_QUEUE=
13 SYNC_EXTRUDER_MOTION_QUEUE=0x2006 EXTRUDER-ex7 MOTION_QUEUE=
14 SYNC_EXTRUDER_MOTION_QUEUE=0x2007 EXTRUDER-ex8 MOTION_QUEUE=
15 When_ecm_is_active, uncomment the lines: ex17, ex18, ex19,
16 ex20, ex21, ex22, ex23, ex24, ex25, ex26, ex27, ex28, ex29, ex30
17 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex1 MOTION_QUEUE=
18 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex2 MOTION_QUEUE=
19 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex3 MOTION_QUEUE=
20 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex4 MOTION_QUEUE=
21 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex5 MOTION_QUEUE=
22 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex6 MOTION_QUEUE=
23 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex7 MOTION_QUEUE=
24 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex8 MOTION_QUEUE=
25 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex9 MOTION_QUEUE=
26 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex10 MOTION_QUEUE=
27 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex11 MOTION_QUEUE=
28 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex12 MOTION_QUEUE=
29 # SYNC_EXTRUDER_MOTION_EXTRUDER-ex13 MOTION_QUEUE=
30
31
32
33
34
```

2.1

Mounting ECM

13- Activate the "ecm_1.cfg" in printer.cfg.

Uncomment the ecm_1.cfg line by deleting the "#" symbol.

```
1 # This file contains pin mappings for the stock ZMKR controller.
2 # V2. To use this config, during "make menuconfig" select the
3 # STM32F103 with a "286KB bootloader" and serial (on USART PA10/PA9)
4 # communication.
5
6 # If you prefer a direct serial connection, in "make menuconfig"
7 # select "Enable extra low-level configuration options" and select
8 # serial (on USART3_PTA1/PTA0), which is broken out on the 10 pin TQFP
9 # cable used for the LCD module as follows:
10 # 0: Tx, 4: Rx, 9: GND, 10: VCC
11
12 # Flash this firmware by copying "out/klipper.bin" to a SD card and
13 # turning on the printer with the card inserted. The firmware
14 # filename must end in ".bin" and must not match the last filename
15 # that was flashed.
16
17 # See docs/Config_Reference.md for a description of parameters.
18
19 #include chroma_head.cfg
20 #[include chroma_head.cfg]
21 #[include driver.cfg]
22 #[include bed_mesh.cfg]
23 #[include input_shaper.cfg]
24 #[include op_axis.cfg]
25 ##[include ecm_1.cfg]
26 ##[include ecm_1.cfg]
27 ##[include ecm_1.cfg]
28 ##[include ecm_1.cfg]
29 #[include ecm_4.cfg]
30 #[include ecm_1_outshaper.cfg]
31
32 [stepper_x]
33 step_pin: PC2
34 dir_pin: PB9
```

2.1

Mounting ECM

14- Uncomment the ex5, ex6, ex7 and ex8 for T0, T1, T2 adn T3 in driver.cfg.



The T0, T1 ,T2 and T3 lines must be seen like the pictures below.

```
135  
136 [gcode_macro T0]  
137 gcode:  
138   SYNC_EXTRUDER_MOTION EXTRUDER=ex1 MOTION_QUEUE=extruder  
139   SYNC_EXTRUDER_MOTION EXTRUDER=ex2 MOTION_QUEUE=  
140   SYNC_EXTRUDER_MOTION EXTRUDER=ex3 MOTION_QUEUE=  
141   SYNC_EXTRUDER_MOTION EXTRUDER=ex4 MOTION_QUEUE=  
142   #When ecm1 is active, uncomment the lines ex5, ex6, ex7, ex8  
143   # SYNC_EXTRUDER_MOTION EXTRUDER=ex5 MOTION_QUEUE=  
144   # SYNC_EXTRUDER_MOTION EXTRUDER=ex6 MOTION_QUEUE=  
145   # SYNC_EXTRUDER_MOTION EXTRUDER=ex7 MOTION_QUEUE=  
146   # SYNC_EXTRUDER_MOTION EXTRUDER=ex8 MOTION_QUEUE=  
147   #When ecm1 is active, uncomment the lines ex9, ex10, ex11, ex12  
148   # SYNC_EXTRUDER_MOTION EXTRUDER=ex9 MOTION_QUEUE=  
149   # SYNC_EXTRUDER_MOTION EXTRUDER=ex10 MOTION_QUEUE=  
150   # SYNC_EXTRUDER_MOTION EXTRUDER=ex11 MOTION_QUEUE=  
151   # SYNC_EXTRUDER_MOTION EXTRUDER=ex12 MOTION_QUEUE=  
152   #When ecm1 is active, uncomment the lines ex13, ex14, ex15, ex16  
153   # SYNC_EXTRUDER_MOTION EXTRUDER=ex13 MOTION_QUEUE=  
154   # SYNC_EXTRUDER_MOTION EXTRUDER=ex14 MOTION_QUEUE=  
155   # SYNC_EXTRUDER_MOTION EXTRUDER=ex15 MOTION_QUEUE=  
156   # SYNC_EXTRUDER_MOTION EXTRUDER=ex16 MOTION_QUEUE=  
157   #When ecm1 is active, uncomment the lines ex17, ex18, ex19, ex20  
158   # SYNC_EXTRUDER_MOTION EXTRUDER=ex17 MOTION_QUEUE=  
159   # SYNC_EXTRUDER_MOTION EXTRUDER=ex18 MOTION_QUEUE=  
160   # SYNC_EXTRUDER_MOTION EXTRUDER=ex19 MOTION_QUEUE=  
161   # SYNC_EXTRUDER_MOTION EXTRUDER=ex20 MOTION_QUEUE=  
162
```

```
195 [gcode_macro T2]  
196 gcode:  
197  
198   SYNC_EXTRUDER_MOTION EXTRUDER=ex1 MOTION_QUEUE=  
199   SYNC_EXTRUDER_MOTION EXTRUDER=ex2 MOTION_QUEUE=  
200   SYNC_EXTRUDER_MOTION EXTRUDER=ex3 MOTION_QUEUE=extruder  
201   SYNC_EXTRUDER_MOTION EXTRUDER=ex4 MOTION_QUEUE=  
202   #When ecm1 is active, uncomment the lines ex5, ex6, ex7, ex8  
203   # SYNC_EXTRUDER_MOTION EXTRUDER=ex5 MOTION_QUEUE=  
204   # SYNC_EXTRUDER_MOTION EXTRUDER=ex6 MOTION_QUEUE=  
205   # SYNC_EXTRUDER_MOTION EXTRUDER=ex7 MOTION_QUEUE=  
206   # SYNC_EXTRUDER_MOTION EXTRUDER=ex8 MOTION_QUEUE=  
207   #When ecm1 is active, uncomment the lines ex9, ex10, ex11, ex12  
208   # SYNC_EXTRUDER_MOTION EXTRUDER=ex9 MOTION_QUEUE=  
209   # SYNC_EXTRUDER_MOTION EXTRUDER=ex10 MOTION_QUEUE=  
210   # SYNC_EXTRUDER_MOTION EXTRUDER=ex11 MOTION_QUEUE=  
211   # SYNC_EXTRUDER_MOTION EXTRUDER=ex12 MOTION_QUEUE=  
212   #When ecm1 is active, uncomment the lines ex13, ex14, ex15, ex16  
213   # SYNC_EXTRUDER_MOTION EXTRUDER=ex13 MOTION_QUEUE=  
214   # SYNC_EXTRUDER_MOTION EXTRUDER=ex14 MOTION_QUEUE=  
215   # SYNC_EXTRUDER_MOTION EXTRUDER=ex15 MOTION_QUEUE=  
216   # SYNC_EXTRUDER_MOTION EXTRUDER=ex16 MOTION_QUEUE=  
217   #When ecm1 is active, uncomment the lines ex17, ex18, ex19, ex20  
218   # SYNC_EXTRUDER_MOTION EXTRUDER=ex17 MOTION_QUEUE=  
219   # SYNC_EXTRUDER_MOTION EXTRUDER=ex18 MOTION_QUEUE=  
220   # SYNC_EXTRUDER_MOTION EXTRUDER=ex19 MOTION_QUEUE=  
221   # SYNC_EXTRUDER_MOTION EXTRUDER=ex20 MOTION_QUEUE=
```

```
167  
168 [gcode_macro T1]  
169 gcode:  
170   SYNC_EXTRUDER_MOTION EXTRUDER=ex1 MOTION_QUEUE=  
171   SYNC_EXTRUDER_MOTION EXTRUDER=ex2 MOTION_QUEUE=extruder  
172   SYNC_EXTRUDER_MOTION EXTRUDER=ex3 MOTION_QUEUE=  
173   SYNC_EXTRUDER_MOTION EXTRUDER=ex4 MOTION_QUEUE=  
174   #When ecm1 is active, uncomment the lines ex5, ex6, ex7, ex8  
175   # SYNC_EXTRUDER_MOTION EXTRUDER=ex5 MOTION_QUEUE=  
176   # SYNC_EXTRUDER_MOTION EXTRUDER=ex6 MOTION_QUEUE=  
177   # SYNC_EXTRUDER_MOTION EXTRUDER=ex7 MOTION_QUEUE=  
178   # SYNC_EXTRUDER_MOTION EXTRUDER=ex8 MOTION_QUEUE=  
179   #When ecm1 is active, uncomment the lines ex9, ex10, ex11, ex12  
180   # SYNC_EXTRUDER_MOTION EXTRUDER=ex9 MOTION_QUEUE=  
181   # SYNC_EXTRUDER_MOTION EXTRUDER=ex10 MOTION_QUEUE=  
182   # SYNC_EXTRUDER_MOTION EXTRUDER=ex11 MOTION_QUEUE=  
183   # SYNC_EXTRUDER_MOTION EXTRUDER=ex12 MOTION_QUEUE=  
184   #When ecm1 is active, uncomment the lines ex13, ex14, ex15, ex16  
185   # SYNC_EXTRUDER_MOTION EXTRUDER=ex13 MOTION_QUEUE=  
186   # SYNC_EXTRUDER_MOTION EXTRUDER=ex14 MOTION_QUEUE=  
187   # SYNC_EXTRUDER_MOTION EXTRUDER=ex15 MOTION_QUEUE=  
188   # SYNC_EXTRUDER_MOTION EXTRUDER=ex16 MOTION_QUEUE=  
189   #When ecm1 is active, uncomment the lines ex17, ex18, ex19, ex20  
190   # SYNC_EXTRUDER_MOTION EXTRUDER=ex17 MOTION_QUEUE=  
191   # SYNC_EXTRUDER_MOTION EXTRUDER=ex18 MOTION_QUEUE=  
192   # SYNC_EXTRUDER_MOTION EXTRUDER=ex19 MOTION_QUEUE=  
193   # SYNC_EXTRUDER_MOTION EXTRUDER=ex20 MOTION_QUEUE=
```

```
222  
223 [gcode_macro T3]  
224 gcode:  
225  
226   SYNC_EXTRUDER_MOTION EXTRUDER=ex1 MOTION_QUEUE=  
227   SYNC_EXTRUDER_MOTION EXTRUDER=ex2 MOTION_QUEUE=  
228   SYNC_EXTRUDER_MOTION EXTRUDER=ex3 MOTION_QUEUE=  
229   SYNC_EXTRUDER_MOTION EXTRUDER=ex4 MOTION_QUEUE=extruder  
230   #When ecm1 is active, uncomment the lines ex5, ex6, ex7, ex8  
231   # SYNC_EXTRUDER_MOTION EXTRUDER=ex5 MOTION_QUEUE=  
232   # SYNC_EXTRUDER_MOTION EXTRUDER=ex6 MOTION_QUEUE=  
233   # SYNC_EXTRUDER_MOTION EXTRUDER=ex7 MOTION_QUEUE=  
234   # SYNC_EXTRUDER_MOTION EXTRUDER=ex8 MOTION_QUEUE=  
235   #When ecm2 is active, uncomment the lines ex9, ex10, ex11, ex12  
236   # SYNC_EXTRUDER_MOTION EXTRUDER=ex9 MOTION_QUEUE=  
237   # SYNC_EXTRUDER_MOTION EXTRUDER=ex10 MOTION_QUEUE=  
238   # SYNC_EXTRUDER_MOTION EXTRUDER=ex11 MOTION_QUEUE=  
239   # SYNC_EXTRUDER_MOTION EXTRUDER=ex12 MOTION_QUEUE=  
240   #When ecm3 is active, uncomment the lines ex13, ex14, ex15, ex16  
241   # SYNC_EXTRUDER_MOTION EXTRUDER=ex13 MOTION_QUEUE=  
242   # SYNC_EXTRUDER_MOTION EXTRUDER=ex14 MOTION_QUEUE=  
243   # SYNC_EXTRUDER_MOTION EXTRUDER=ex15 MOTION_QUEUE=  
244   # SYNC_EXTRUDER_MOTION EXTRUDER=ex16 MOTION_QUEUE=  
245   #When ecm4 is active, uncomment the lines ex17, ex18, ex19, ex20  
246   # SYNC_EXTRUDER_MOTION EXTRUDER=ex17 MOTION_QUEUE=  
247   # SYNC_EXTRUDER_MOTION EXTRUDER=ex18 MOTION_QUEUE=  
248   # SYNC_EXTRUDER_MOTION EXTRUDER=ex19 MOTION_QUEUE=
```



For more information about connecting the ECM to ChromaPad, please visit the link.
<https://wiki.coprint3d.com/en/How-to-Set-Up-Extra-4-Color-Printing-Feature-with-ECM>

3.1 ChromaScreen Interface

1.A- In the top left, you can adjust the extruder and heater bed temperatures. In the menu on the right, you will find settings such as starting the print and home adjustments.



1.B- In the middle menu, you can find print statistics, system information, and filament operations.



3.1

ChromaScreen Interface

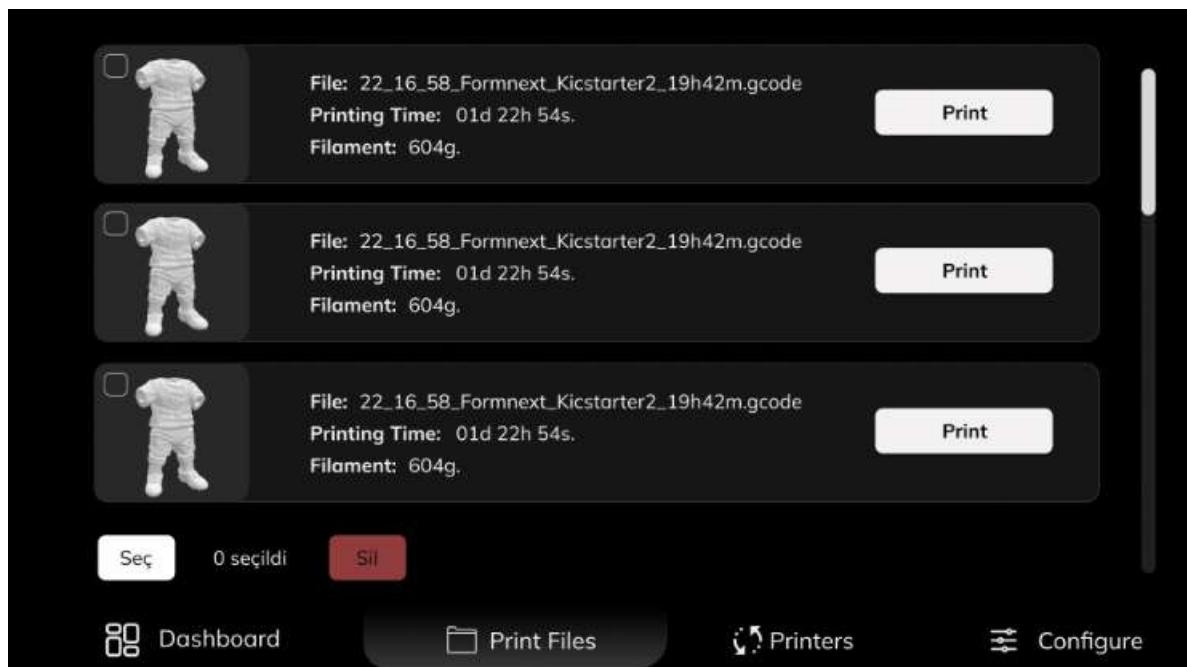
2- The "Move Axis" page allows you to control the axes of the 3D printer. For ease of use and to prevent confusion, the X and Y axes are positioned separately from the Z axis. Additionally, you can change the movement distance of the axis on this page. Furthermore, there is also a filament feeding area available on this page, allowing you to control filament without leaving this interface.



3.1

ChromaScreen Interface

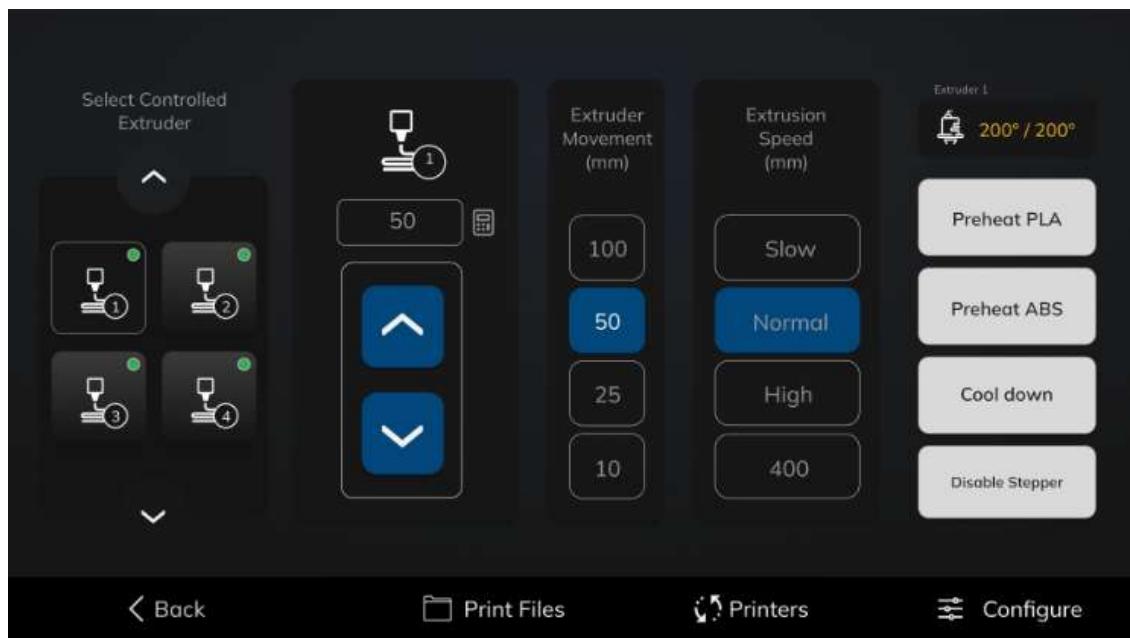
3- On the "Print Files" page, you can preview 3D models to be printed on the tablet along with their preview, and easily initiate printing for the selected model. By using the "Select" and "Delete" buttons, you can make batch selections and delete the selected models from ChromaPad. You can use the MainSail interface to load models onto ChromaPad. The model library in MainSail works synchronously with ChromaPad's "Print Files" page, so deleting models from one interface will also remove them from the other.



3.1

ChromaScreen Interface

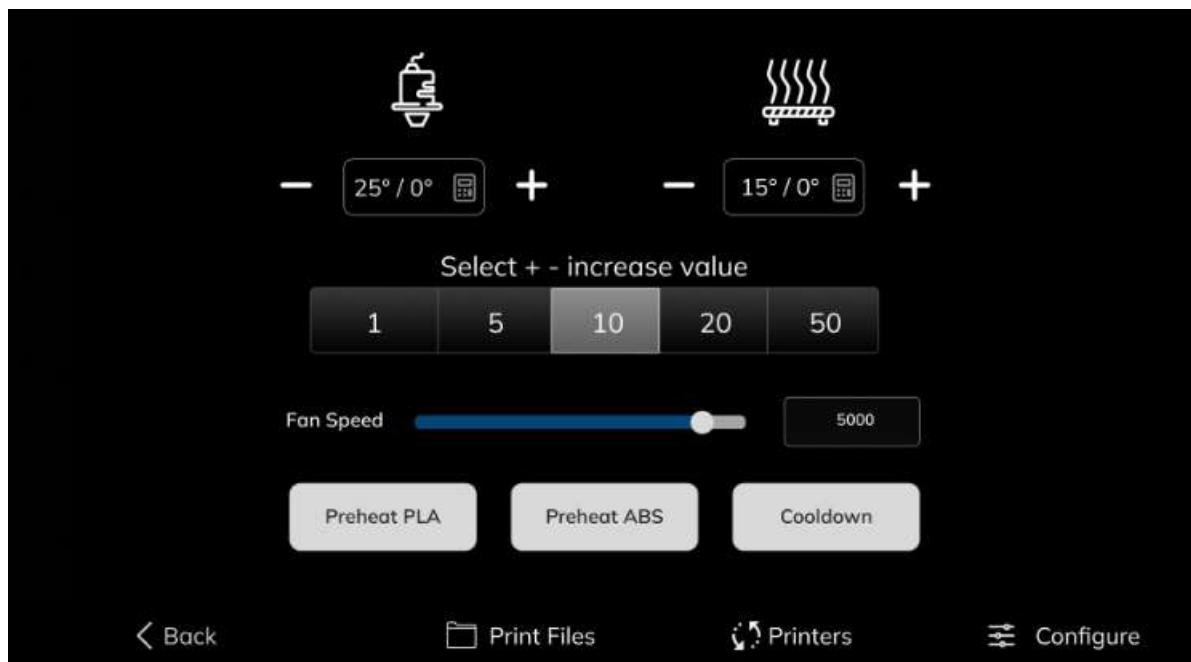
4- The Extruder Control Page, specially designed to control 20 extruders connected to ChromaPad, enables multi-extruder control. On the left side, the "Extruder Selector" lists 20 extruders; those with green lights indicate that the respective extruder is connected to the system and ready to operate. You can view other extruders by using the top and bottom buttons. Clicking on any extruder selects it, and all controls on the right side are valid only for the selected extruder. Through these controls, you can perform forward and backward extrusion operations and control the extruder's movement speed during this process. Additionally, you can determine how many millimeters of filament will be extruded from the Extruder Movement menu. On the far right menu, you can control the hotend temperature and activate preheating settings.



3.1

ChromaScreen Interface

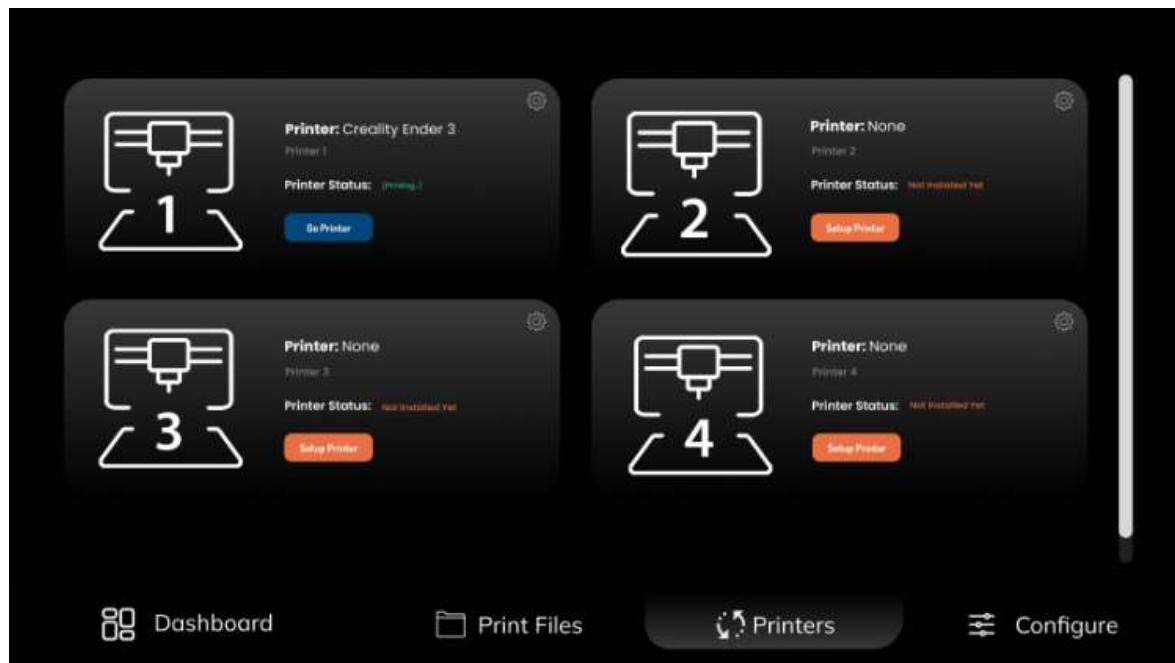
5- Through the Temperature page, you can perform detailed temperature control. You can control the extruder and bed temperatures separately and enter custom values. You can increase or decrease the temperature using the + and - buttons, and you can also choose the degree of change for these buttons. Additionally, you can adjust the fan speed. You can use preset temperature settings or reset the temperature values if they are too high.



3.1

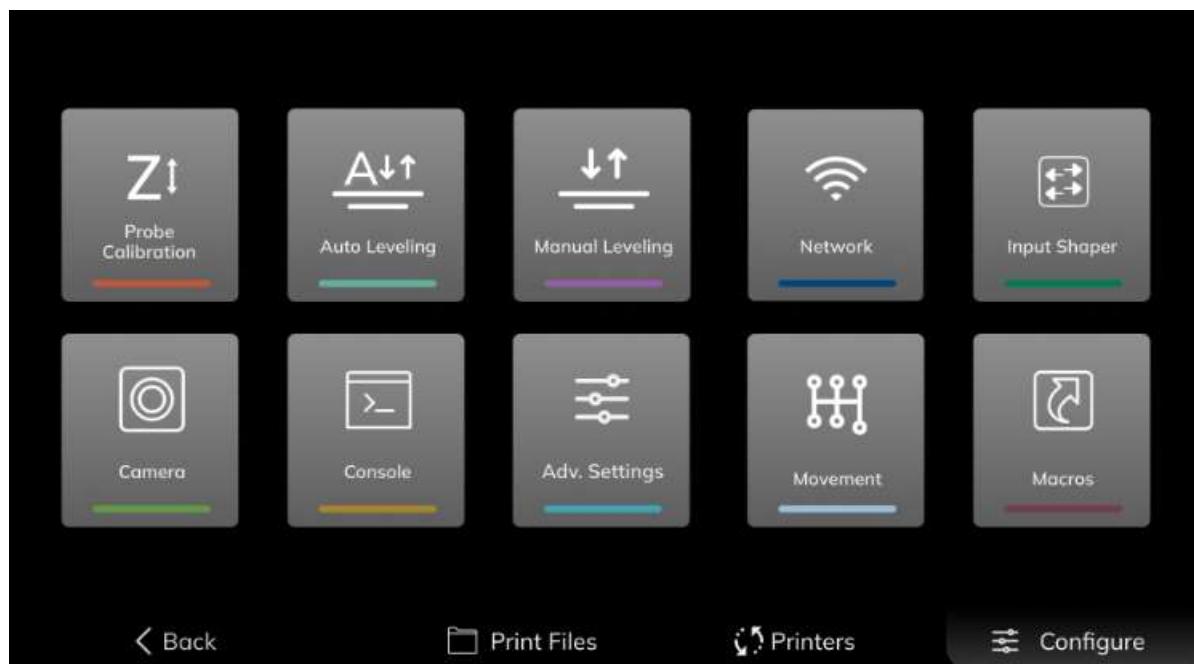
ChromaScreen Interface

6- ChromaPad can simultaneously control up to 8 3D printers. You can view and select the 3D printers you have set up in this interface for control. To add a new printer, you can use the "Setup Printer" button in the empty slots. This button will take you to the setup wizard, allowing you to install a new printer in the respective slot.

**3.1**

ChromaScreen Interface

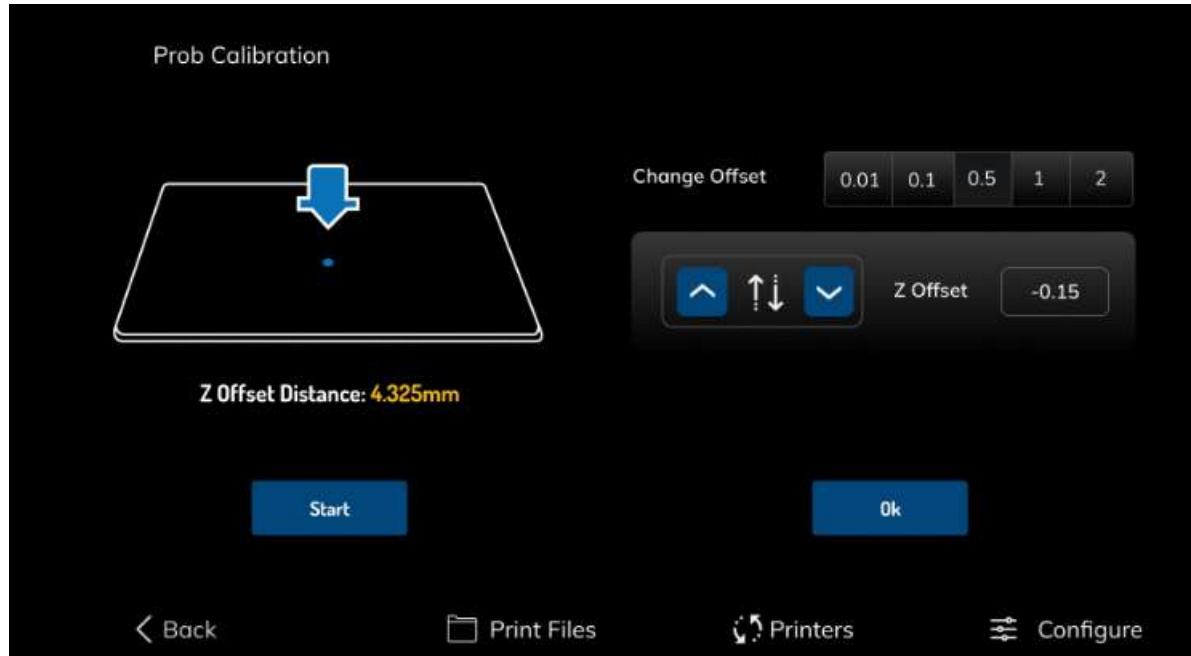
7- It's the settings menu interface where you can access all the features offered by ChromaPad. Using this interface, you can access functions such as Probe Calibration, Auto Leveling, Manual Leveling, Network, Input Shaper, Camera, Console, Advanced Settings, Movement, and Macros.



3.1

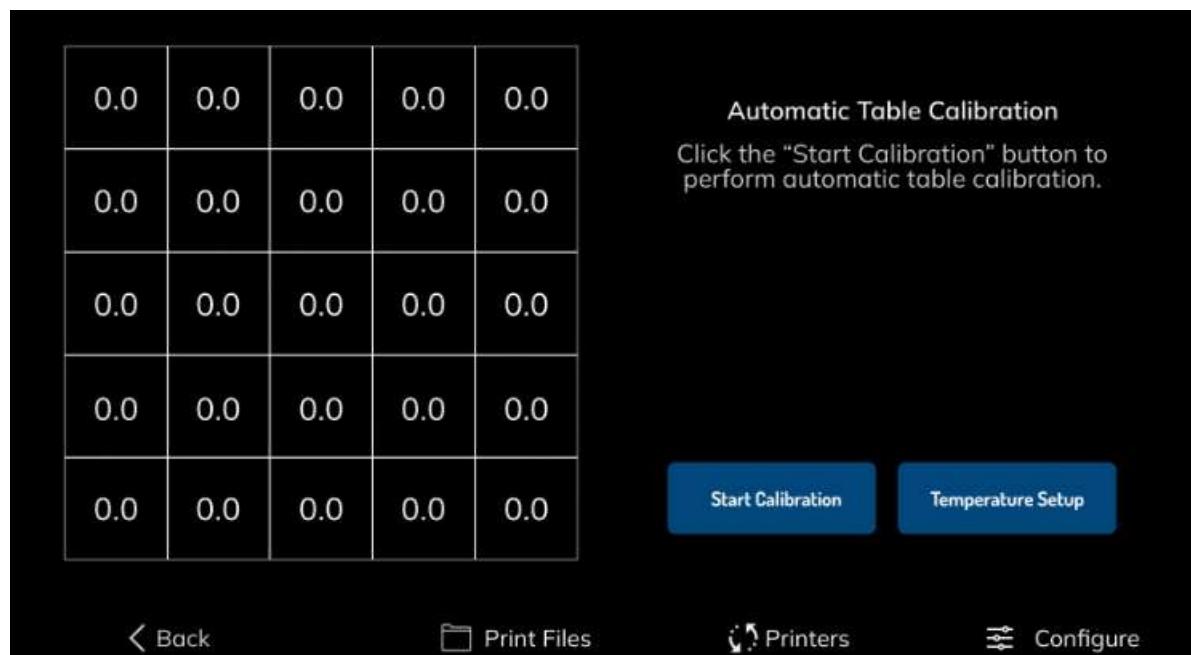
ChromaScreen Interface

8- You can perform probe calibration from the Z Probe calibration interface.

**3.1**

ChromaScreen Interface

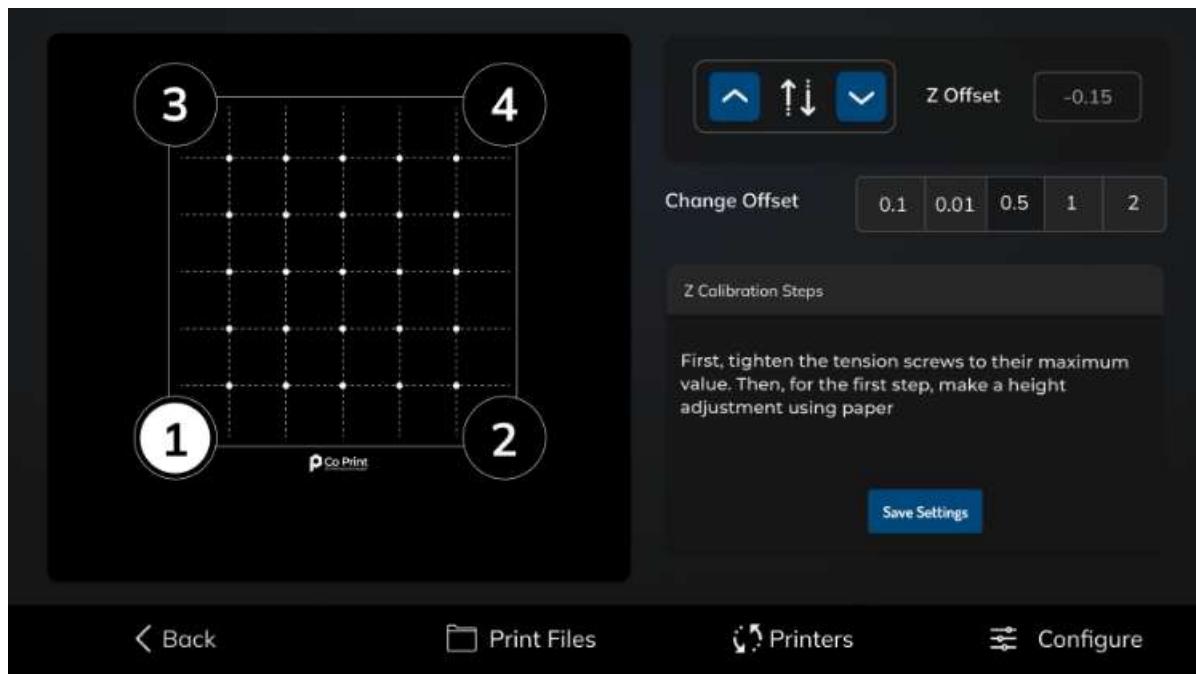
9- From the Auto Leveling page, you can initiate automatic bed calibration by using the "Start calibration" button. You can also access temperature settings from the "Temperature Setup" button.



3.1

ChromaScreen Interface

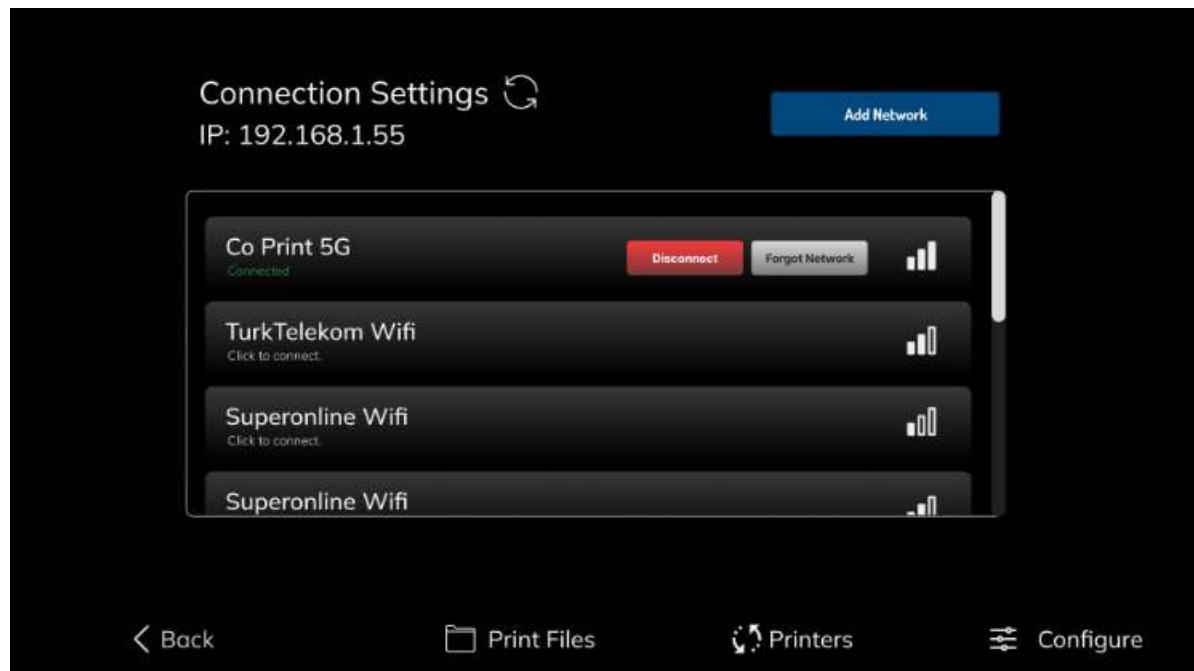
10- From the Manual Leveling page, you can manually perform bed calibration. Using the 1-2-3-4 buttons, you can move to the corners of the bed and adjust the springs or perform calibration via Z offset. You can save the Z offset value by clicking the "Save settings" button.



3.1

ChromaScreen Interface

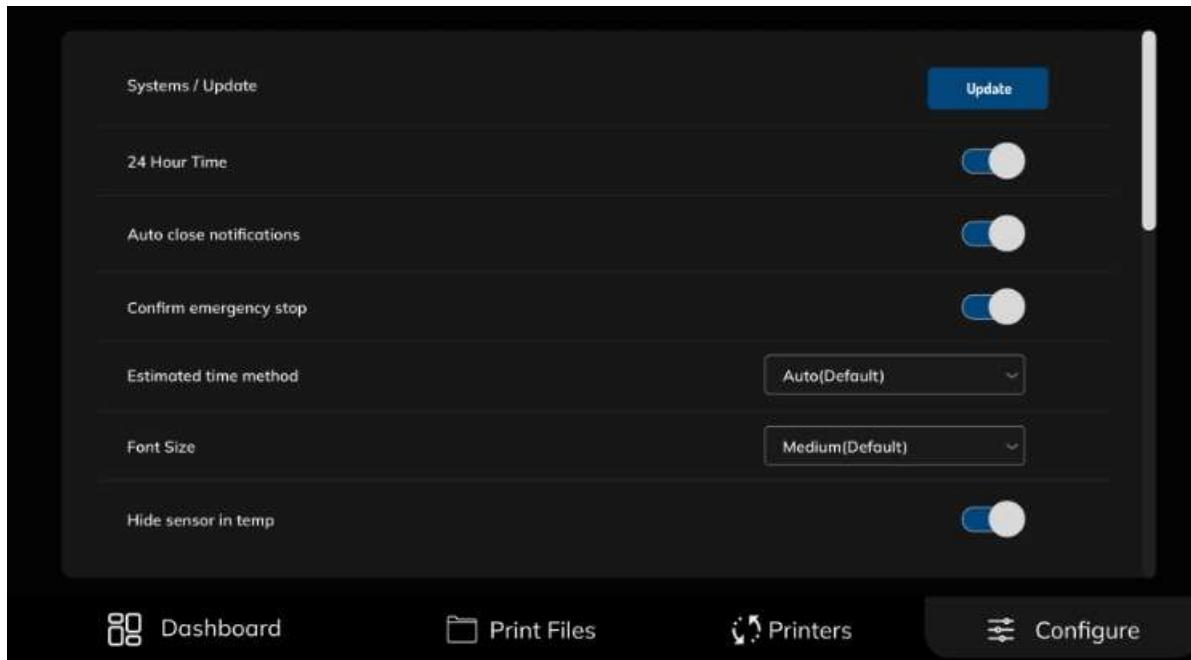
11- You can manage internet connection settings from this interface. Additionally, you can view the device's IP address and access the MainSail interface using this address.



3.1

ChromaScreen Interface

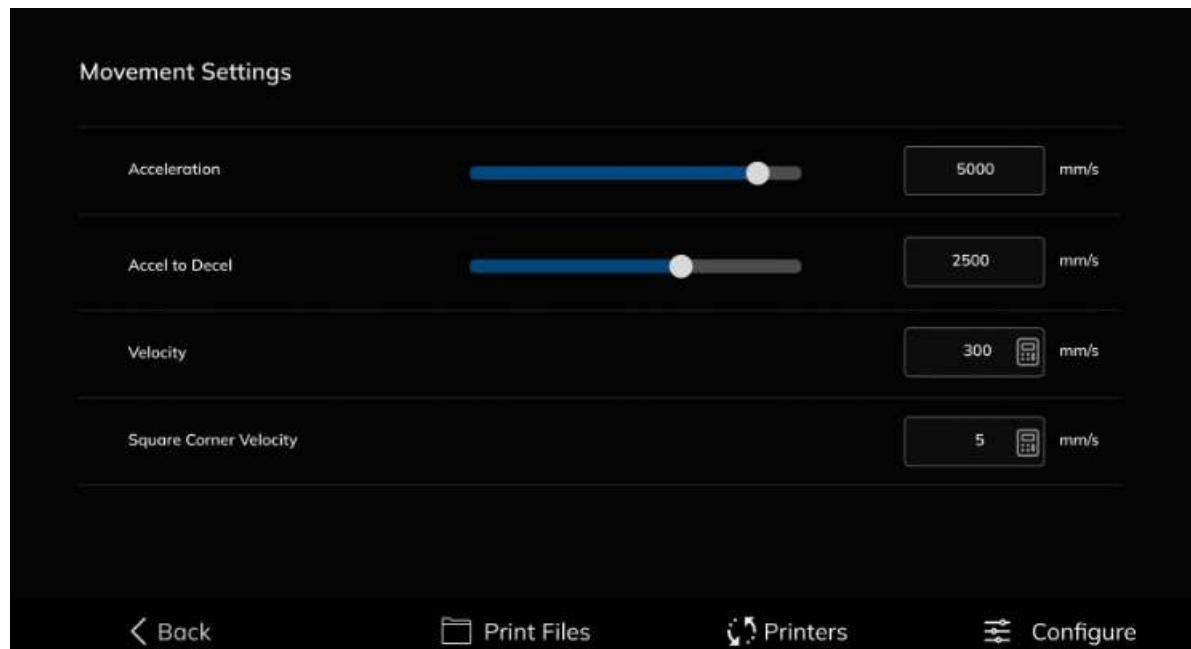
12- The "Adv. Settings" page contains various settings related to the interface.



3.1

ChromaScreen Interface

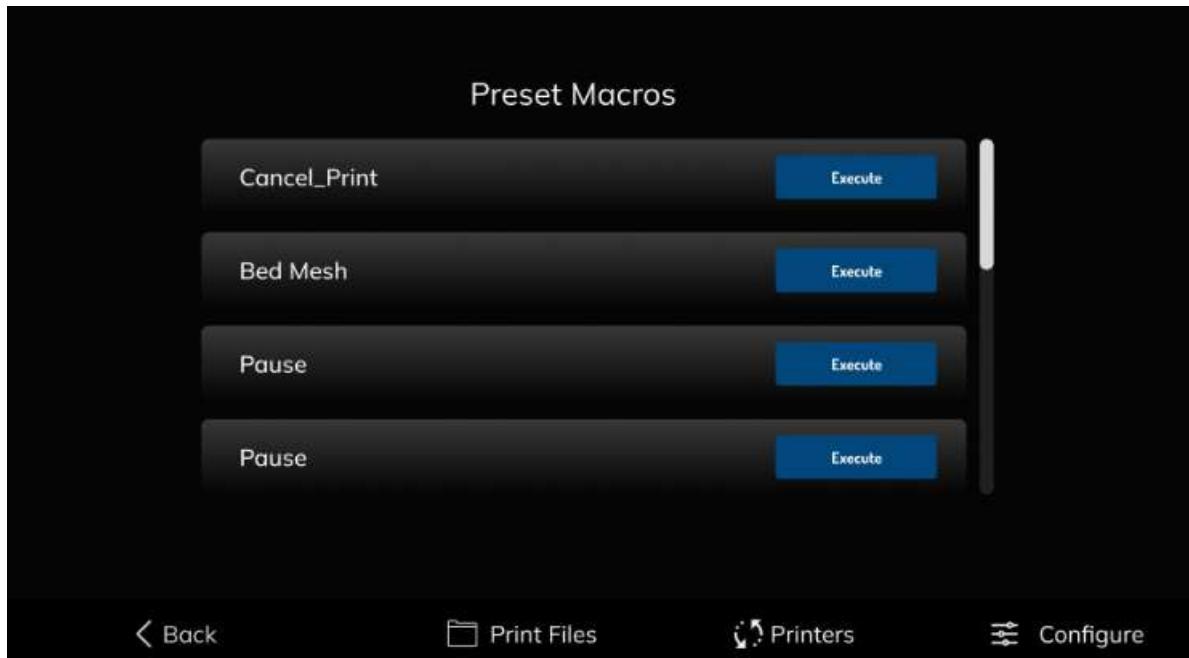
13- From the Movement page, you can control and adjust the printer's Acceleration, Accel to Decel, Velocity, and Square Corner Velocity settings.



3.1

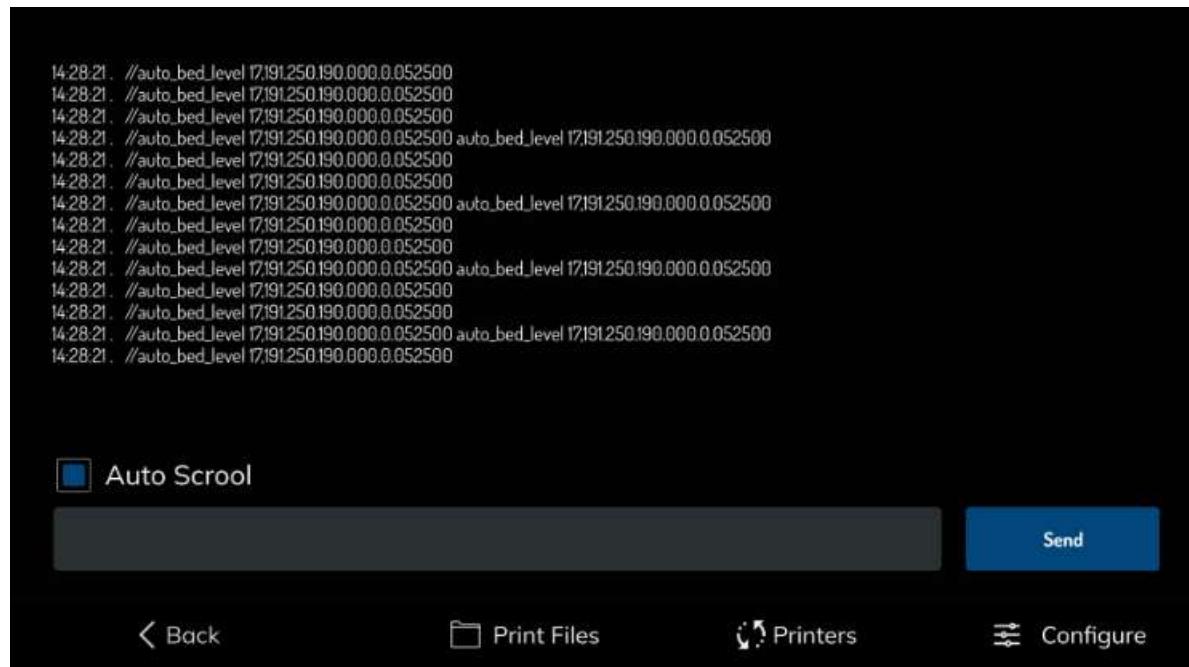
ChromaScreen Interface

14- You can actively use the macros you've assigned from the MainSail interface on this Macros page.

**3.1**

ChromaScreen Interface

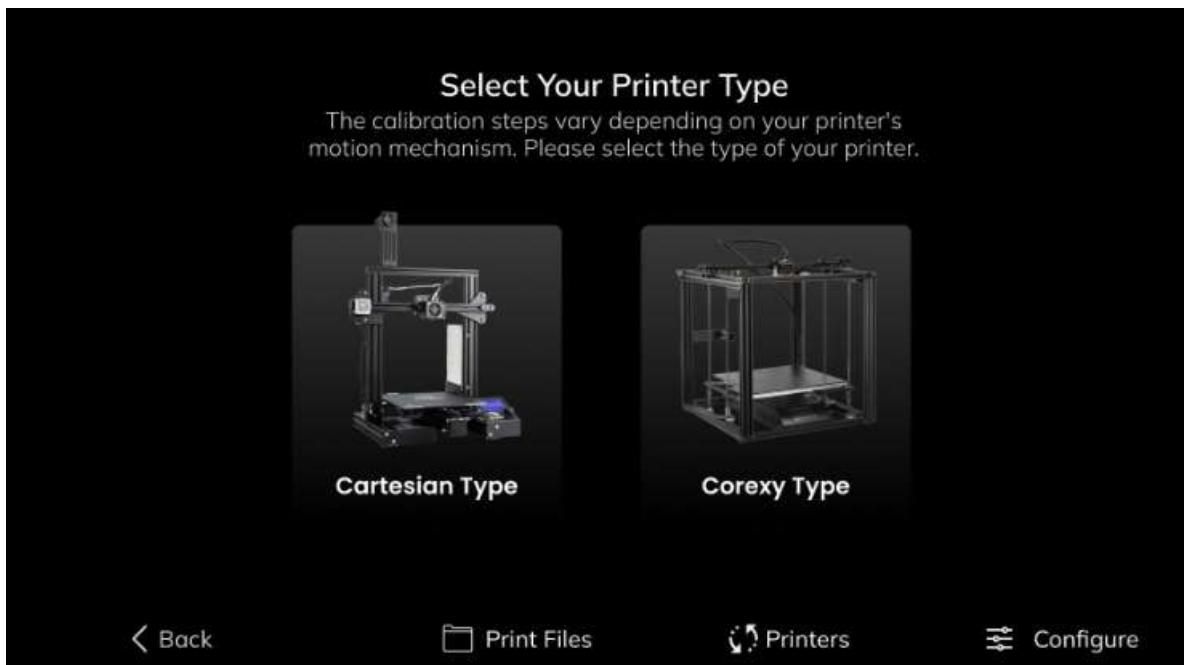
15- On the Console page, you can directly send commands to Klipper. It operates synchronously with the console in the MainSail interface.



3.1

ChromaScreen Interface

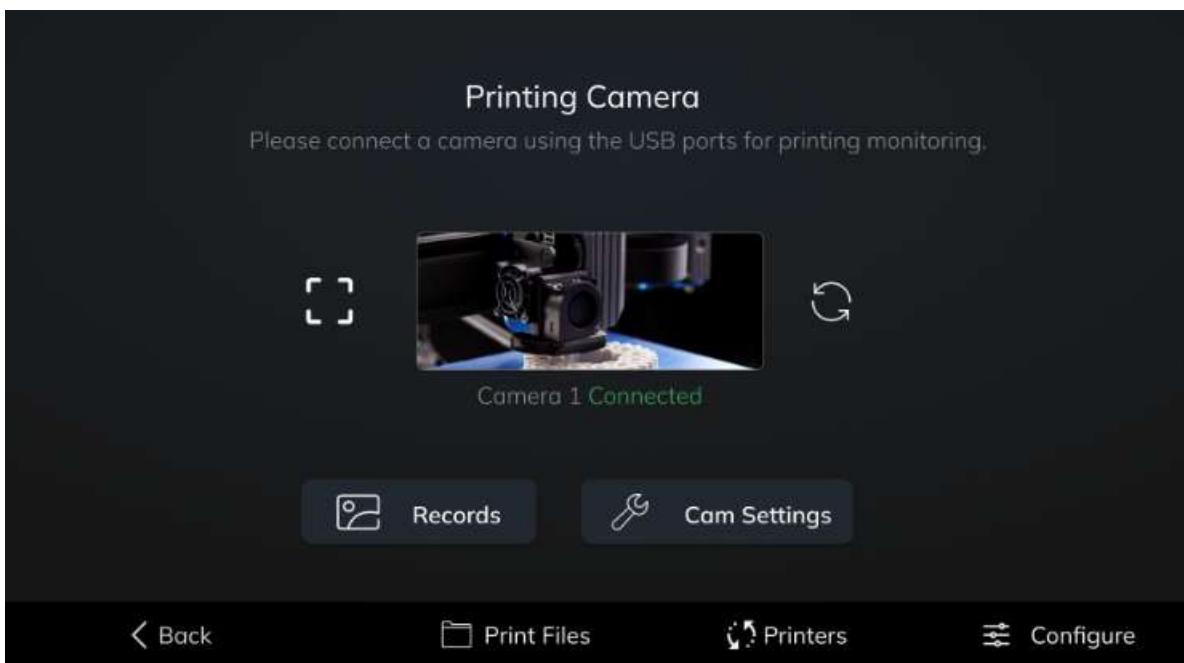
16- ChromaPad is a tablet that provides the input shaping feature. Within ChromaScreen, there is a wizard specifically for this feature. Using this wizard, you can perform input shaping calibration on all Cartesian and CoreXY type 3D printers. ChromaHead contains an embedded vibration sensor. You can use the calibration sensor that comes with the set by connecting it to ChromaPad via USB.



3.1

ChromaScreen Interface

17- By connecting a camera to ChromaPad, you can remotely monitor your prints and capture timelapse videos. The connected camera can be viewed and managed in the Camera interface.



3.1

ChromaScreen Interface

18- The Print Page contains many details related to the print initiated on the 3D printer. In the preview area, you can see a preview of the printed model, displaying multi-color if the model is multi-filament and single-color if it's single-filament.

You can access metrics such as file name, print time, remaining time, etc.

You can view and adjust the extruder and print bed temperatures.

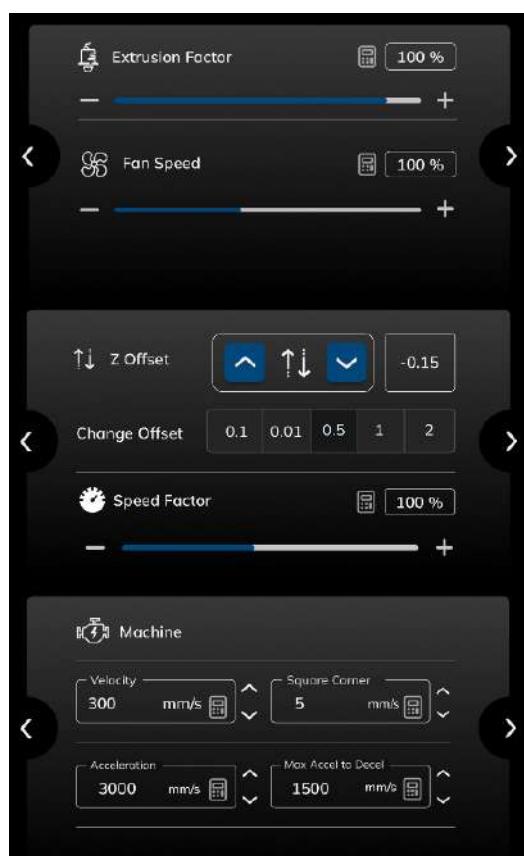
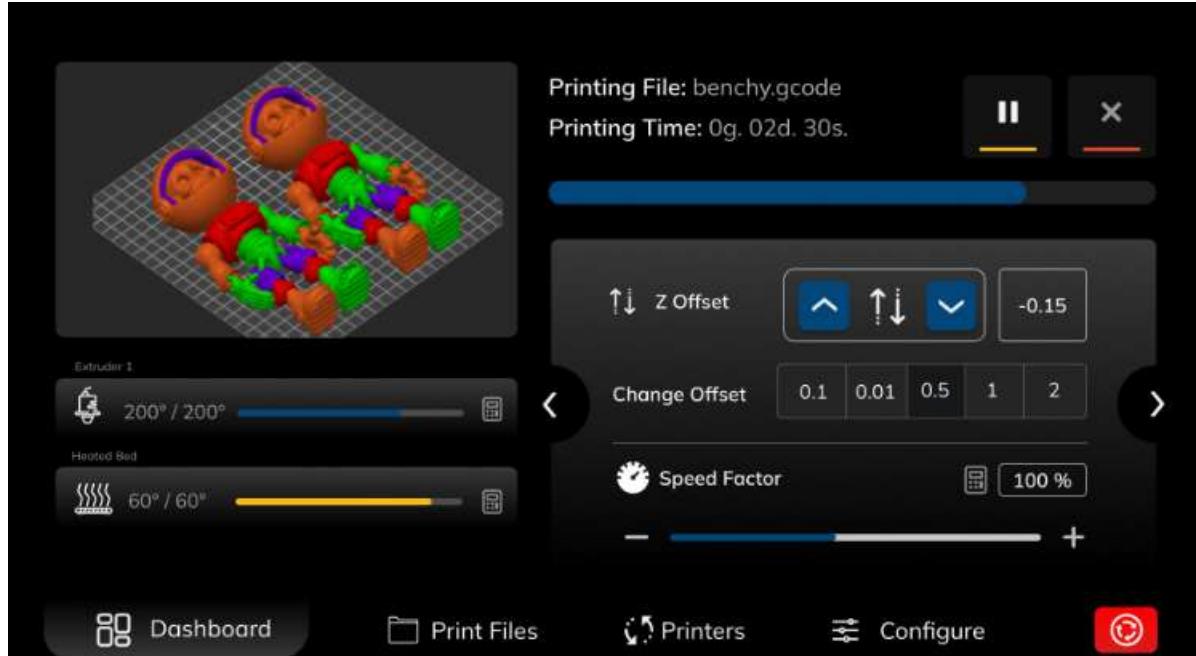
Through the side-scrollable feature menu, you can access Z Offset settings without the need to change pages and adjust the Z offset value during printing.

Under the Speed Factor setting, you can change the print speed during printing.

Under the Extrusion Factor setting, you can increase or decrease the extrusion rate.

Under the Fan Speed setting, you can control the fan speed and turn off the fan if desired.

Under the Machine settings, you can adjust the Velocity, Square Corner, Acceleration, and Max Accel to Decel settings of the machine during printing.



4.1

Before Printing

Before you start printing, you need to open bed_mesh. What is bed_mesh? Bed mesh is a calibration method used to compensate for irregularities and curvatures of the printing surface (printing table) in 3D printers. It maps the deviations on this surface by measuring the distance between the printer's nozzle and the printing table at various points and dynamically adjusts the height of the nozzle to compensate for these differences during printing. In this way, a smooth printing surface can be obtained and higher quality prints can be obtained.



Thanks to the config files we have shared with you for bed mesh, you do not need to do anything.

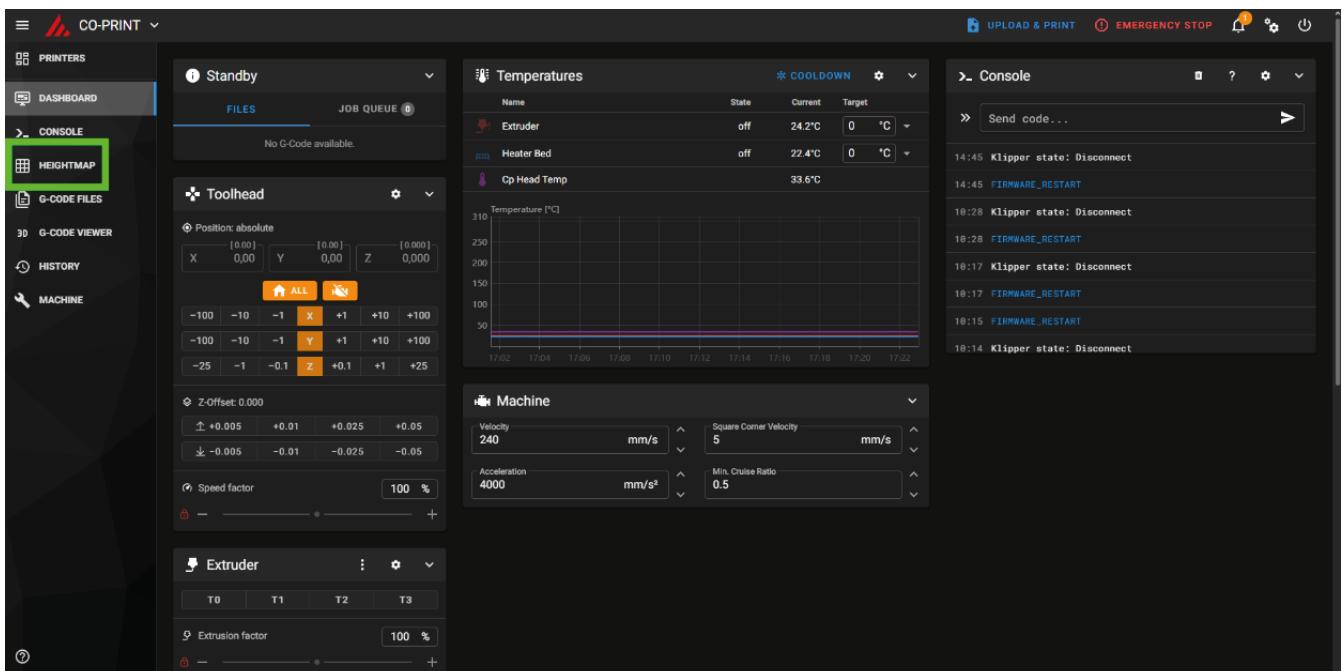


For more information about Mainsail, please visit our wiki page.
<https://wiki.coprint3d.com/interface-introduction>

4.1

Before Printing

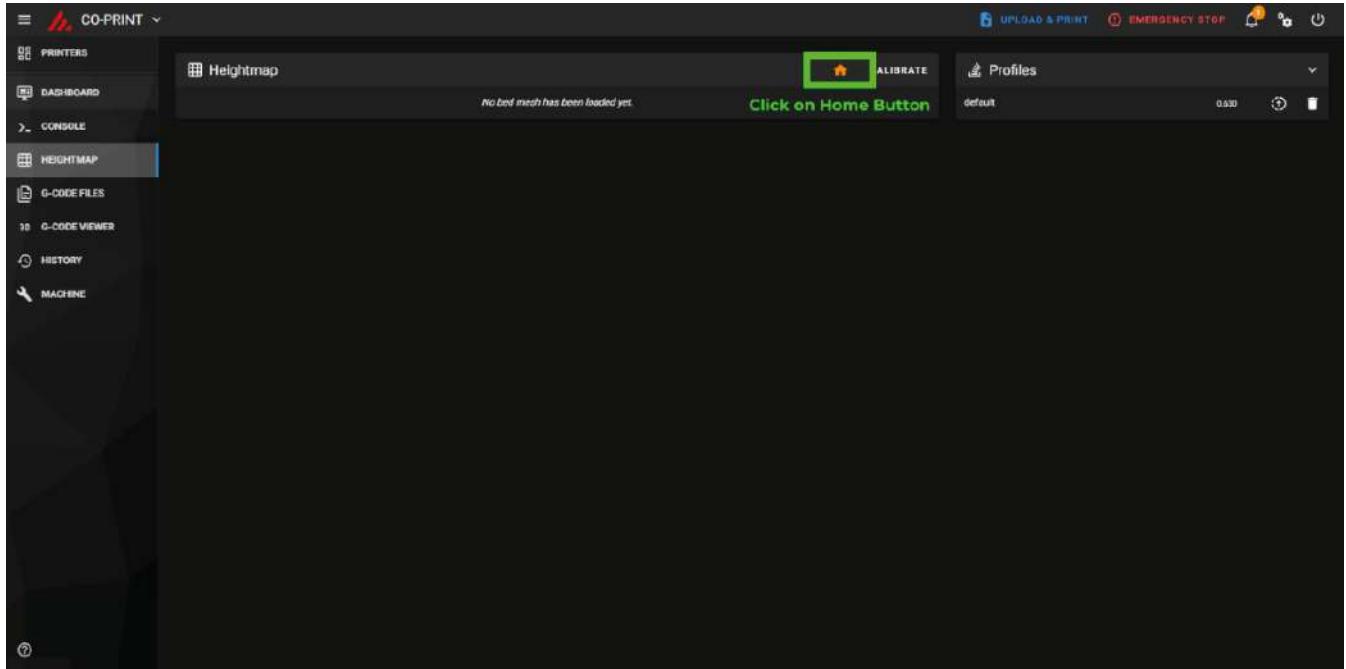
1- Click on the HeightMap button on the left side of the Mainsail bar.



4.1

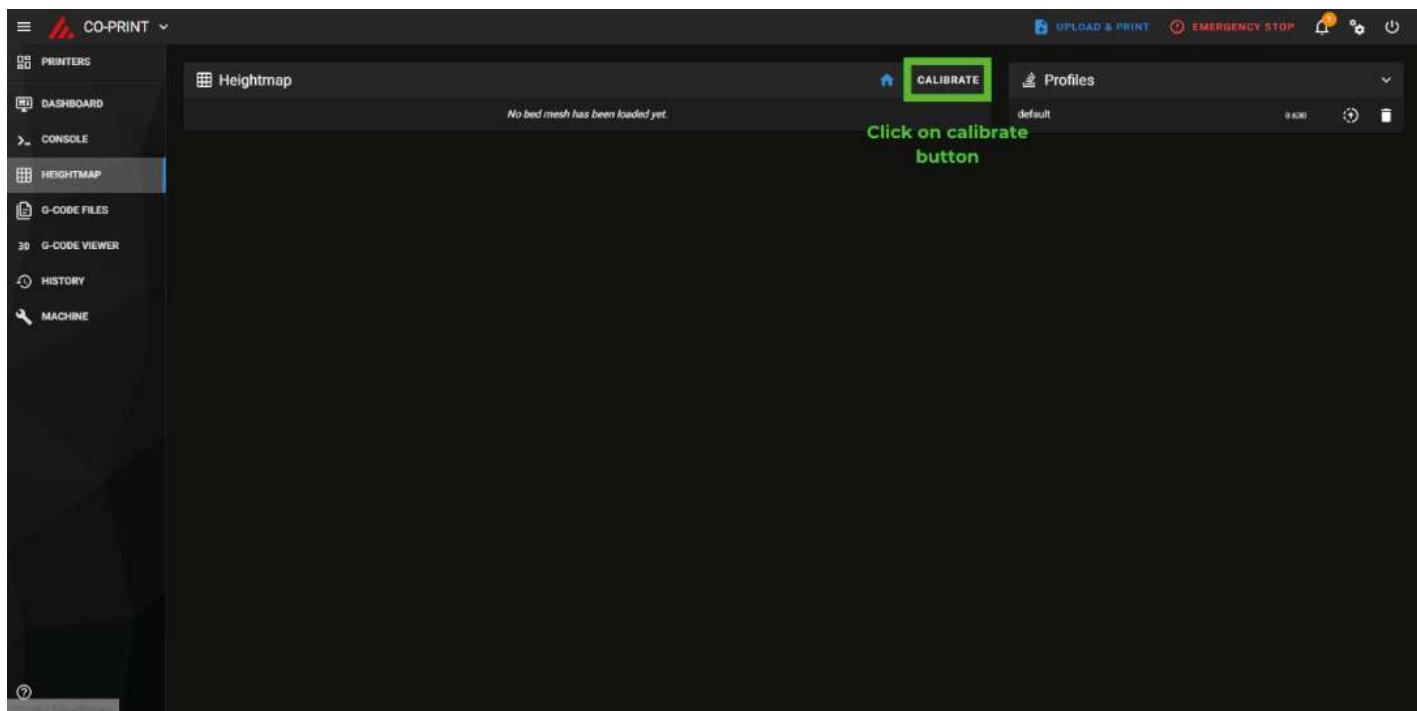
Before Printing

2- Press the Home button.

**4.1**

Before Printing

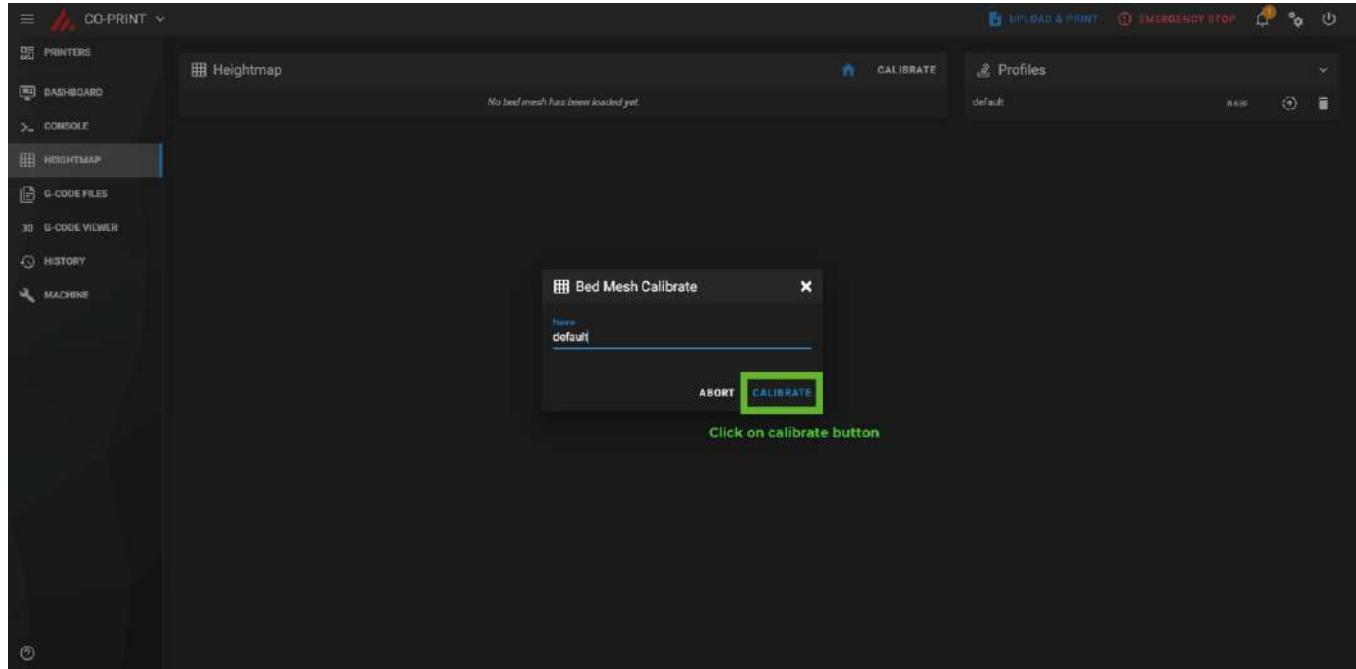
3- Click the Calibrate button.



4.1

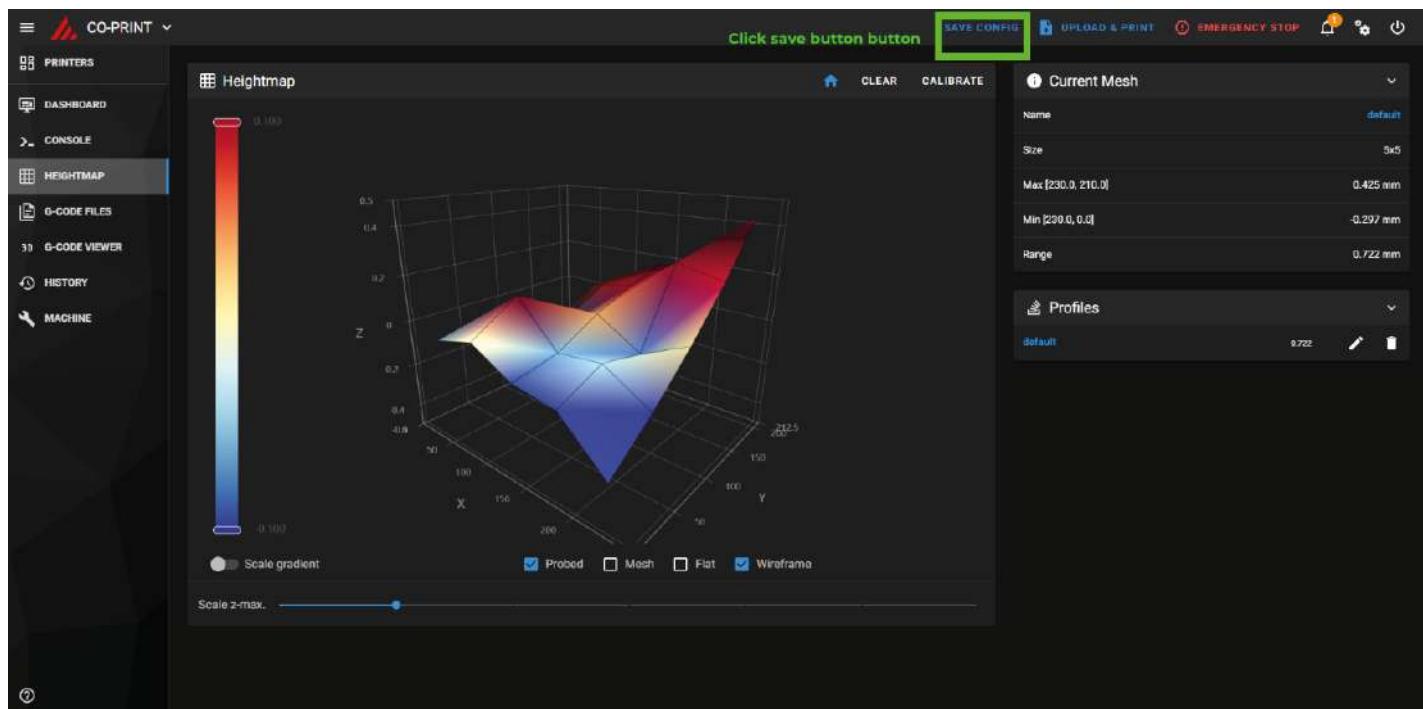
Before Printing

4- On the page that opens, press calibrate and wait for it to finish.

**4.1**

Before Printing

5- Bed_mesh is completed. Click the "save config" option at the top to save it.



4.2

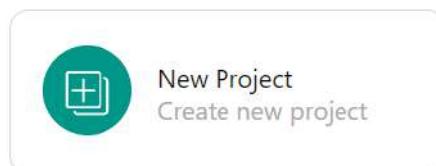
First Printing



For OrcaSlicer installation, please visit our wiki page.
<https://wiki.coprint3d.com/en/orcaslicer>

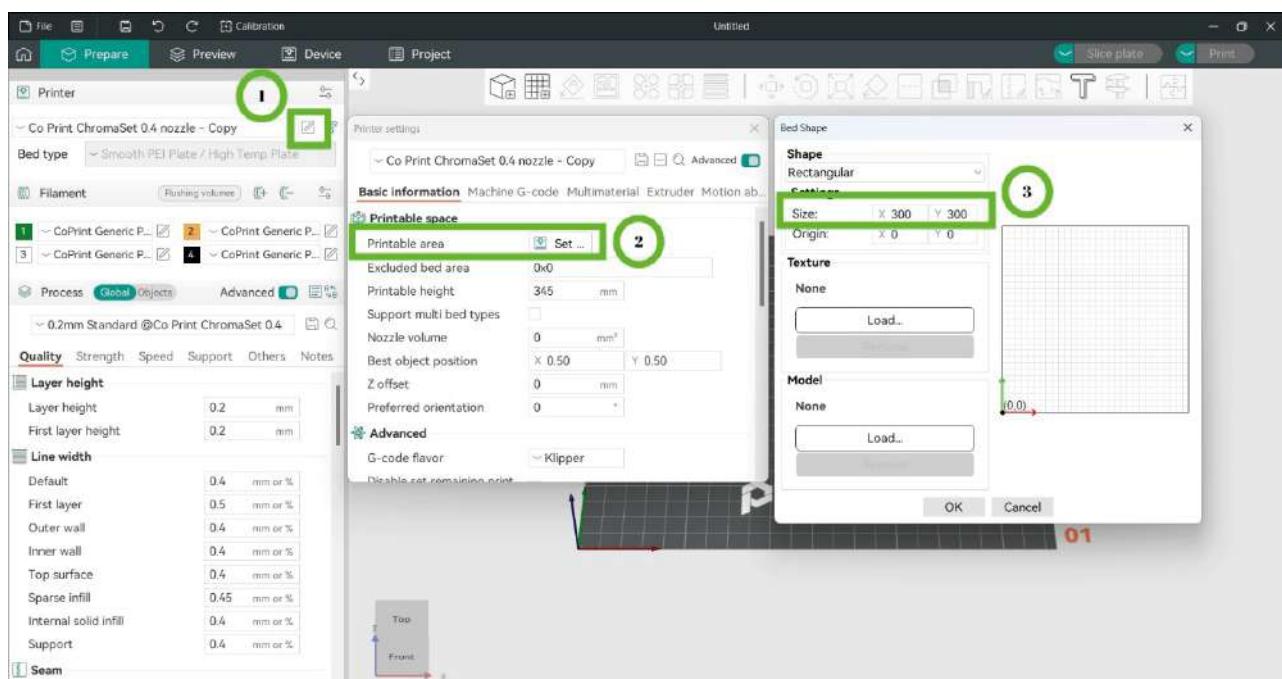
The steps you need to take to get your first print with the KCM Set are listed below.

- 1- Open the OrcaSlicer program.
- 2- Click on the 'New Project' button.

**4.2**

First Printing

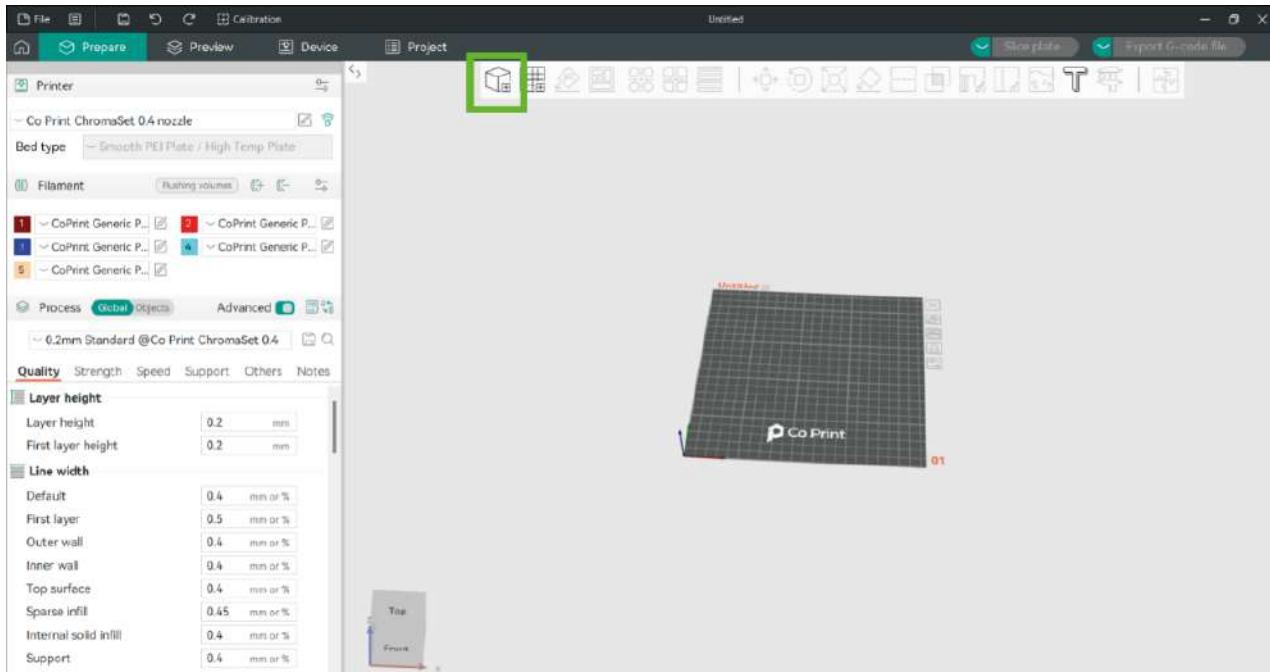
- 3- Adjust your print area to match the print area of your printer. For Ender 3 V2 you should write the printable area as 225x225.



4.2

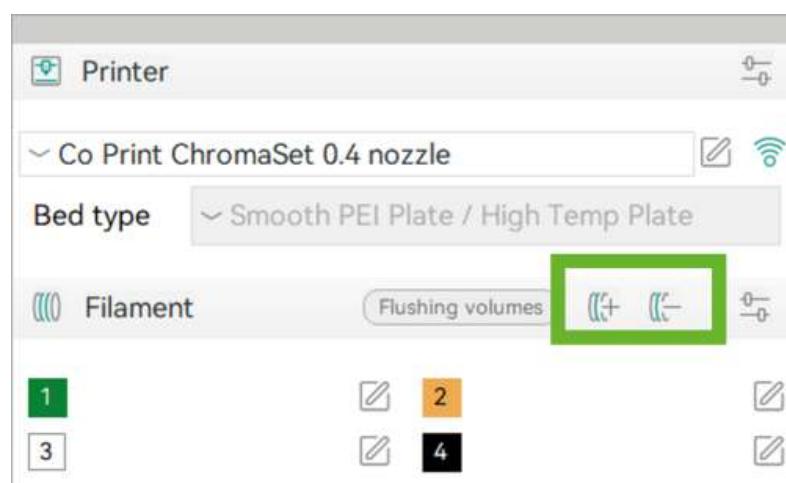
First Printing

4- In the menu at the top, click on the 'add model' icon on the left to add the model you want to print.

**4.2**

First Printing

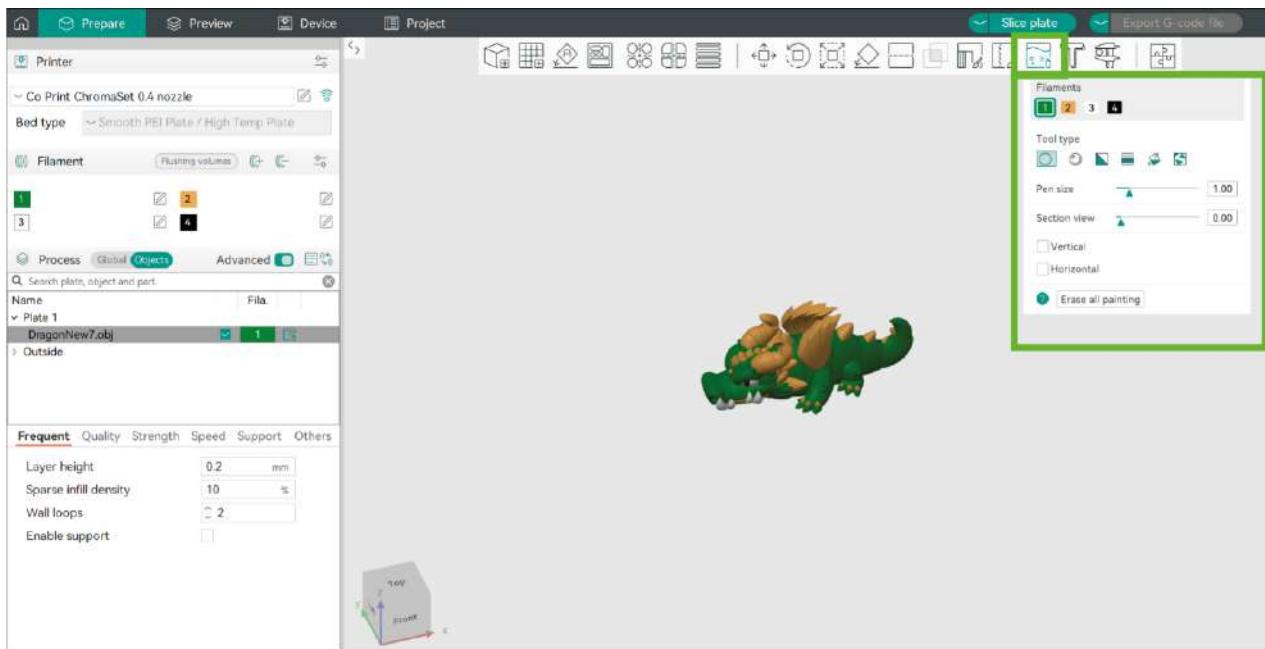
5- You can add colors from the menu on the left to print in as many colors as you like.



4.2

First Printing

6- After selecting your colors, click on the 'paint model' icon after clicking on your model in the menu at the top to paint your model. You can use the painting tools on the right to paint your model as you wish.



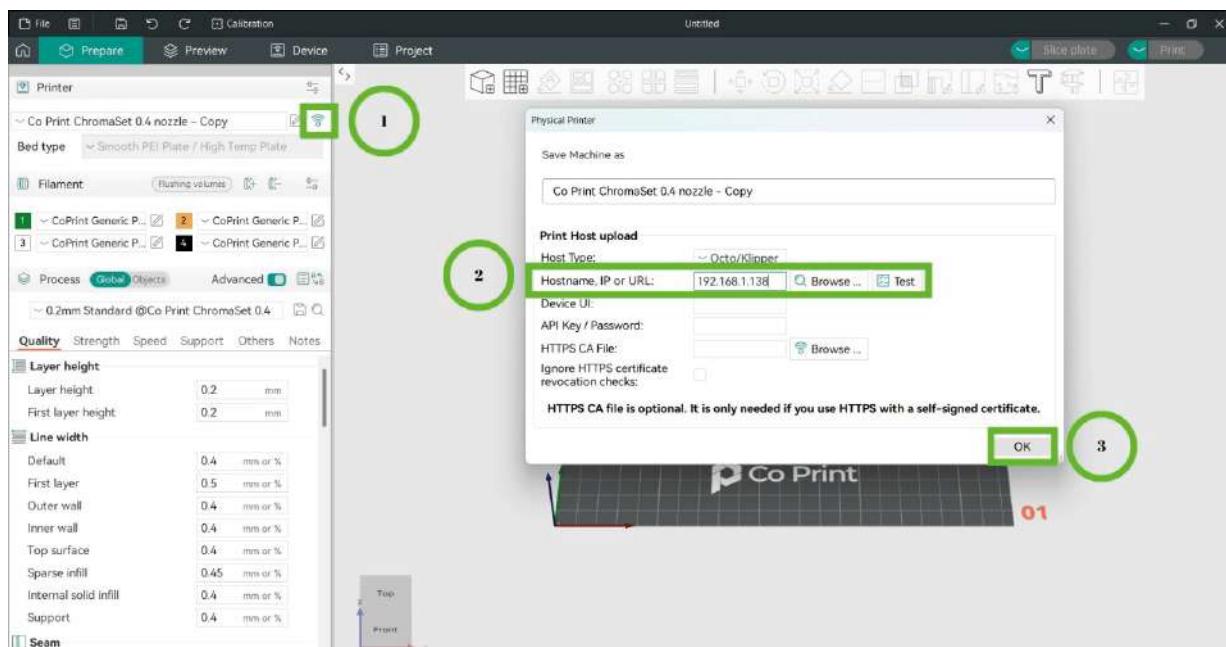
If you want to see how to make more detailed adjustments in OrcaSlicer, we recommend checking the OrcaSlicer section on the Co Print Wiki page.

<https://wiki.coprint3d.com/en/orcaslicer>

4.2

First Printing

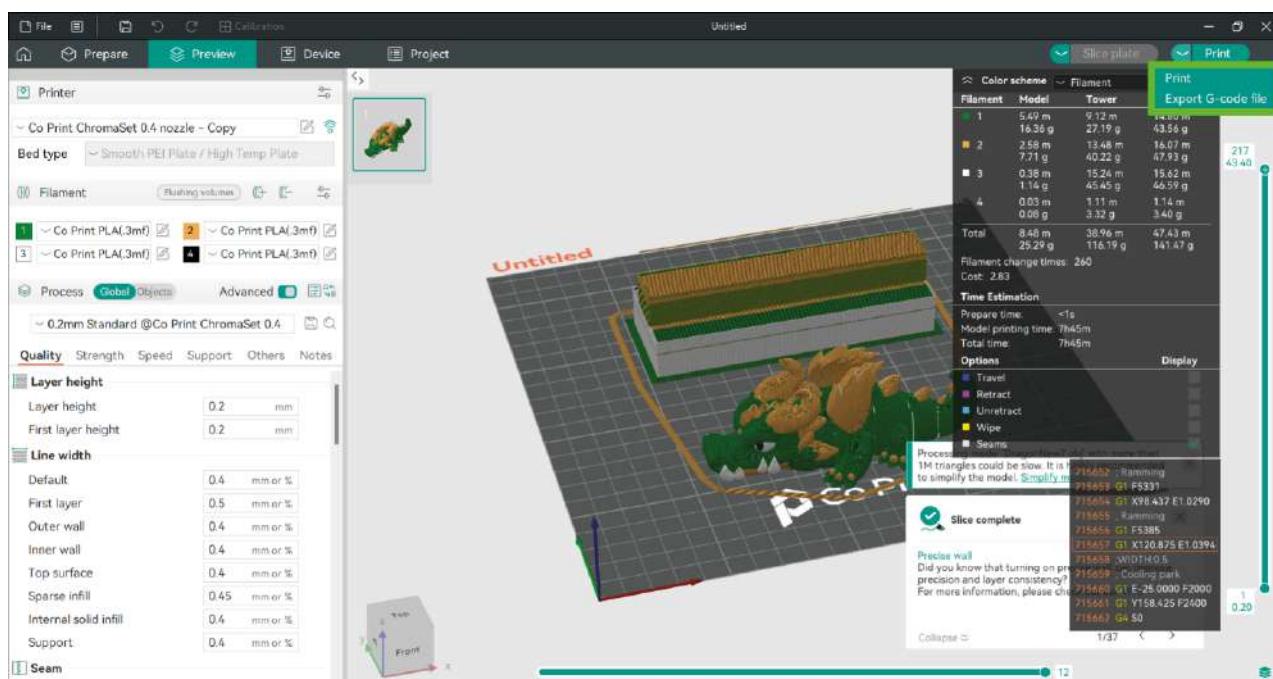
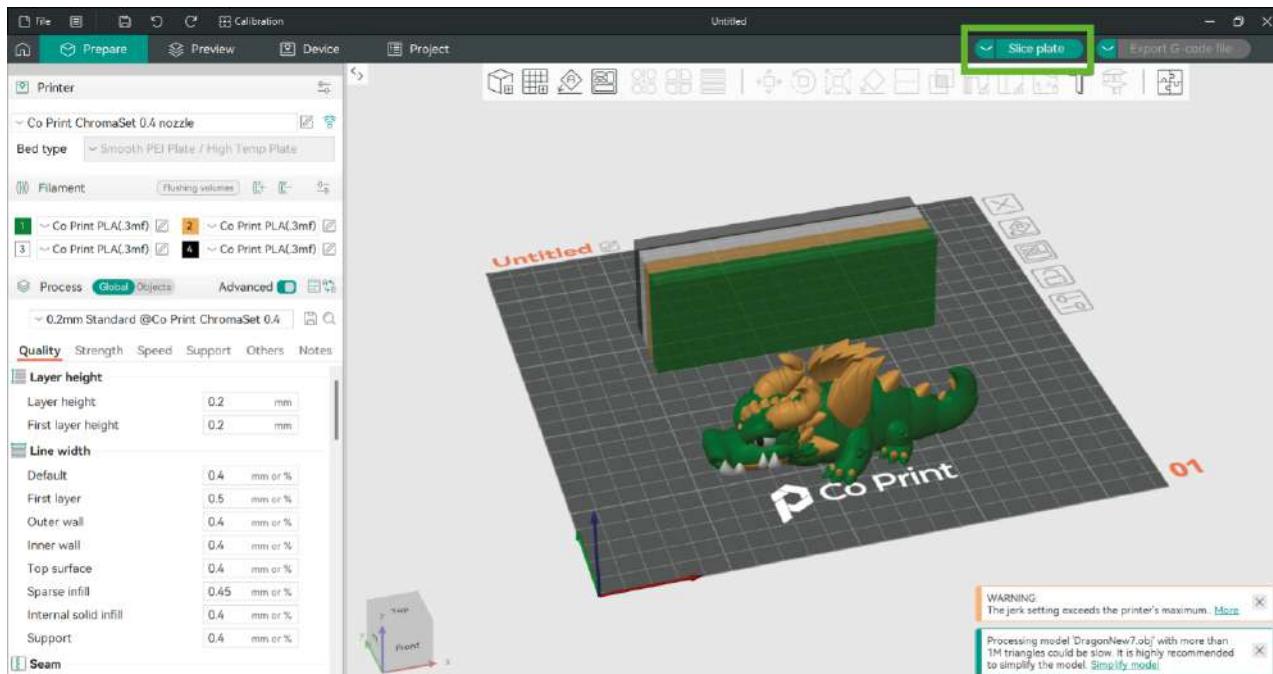
7- You can control your printer via OrcaSlicer by entering its IP address and start your printing.



4.2

First Printing

8- After finishing the adjustments to your model, click the 'Slice' button in the top right. Once the slicing process is complete, you can either start your print directly from OrcaSlicer or export the file by clicking the 'Export G-code File' button. You can drag the exported file into Mainsail to upload it.



4.2

First Printing

9- After the slicing process, you should pay attention to the color order of the filaments in the information table at the top right. You need to install the filaments in your extruders according to that order.

Color scheme		Filament		
Filament	Model	Tower	Total	
■ 1	5.49 m 16.36 g	9.12 m 27.19 g	14.60 m 43.56 g	
■ 2	2.58 m 7.71 g	13.48 m 40.22 g	16.07 m 47.93 g	
■ 3	0.38 m 1.14 g	15.24 m 45.45 g	15.62 m 46.59 g	
■ 4	0.03 m 0.08 g	1.11 m 3.32 g	1.14 m 3.40 g	
Total	8.48 m 25.29 g	38.96 m 116.19 g	47.43 m 141.47 g	
Filament change times: 260				
Cost: 2.83				
Time Estimation				
Prepare time: <1s				
Model printing time: 7h45m				
Total time: 7h45m				
Options		Display		
<input checked="" type="checkbox"/>	Travel	<input type="checkbox"/>	Layer	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Retract	<input type="checkbox"/>	Print	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Unretract	<input type="checkbox"/>	Print	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Wipe	<input type="checkbox"/>	Print	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Seams	<input type="checkbox"/>	Print	<input checked="" type="checkbox"/>

4.2

First Printing

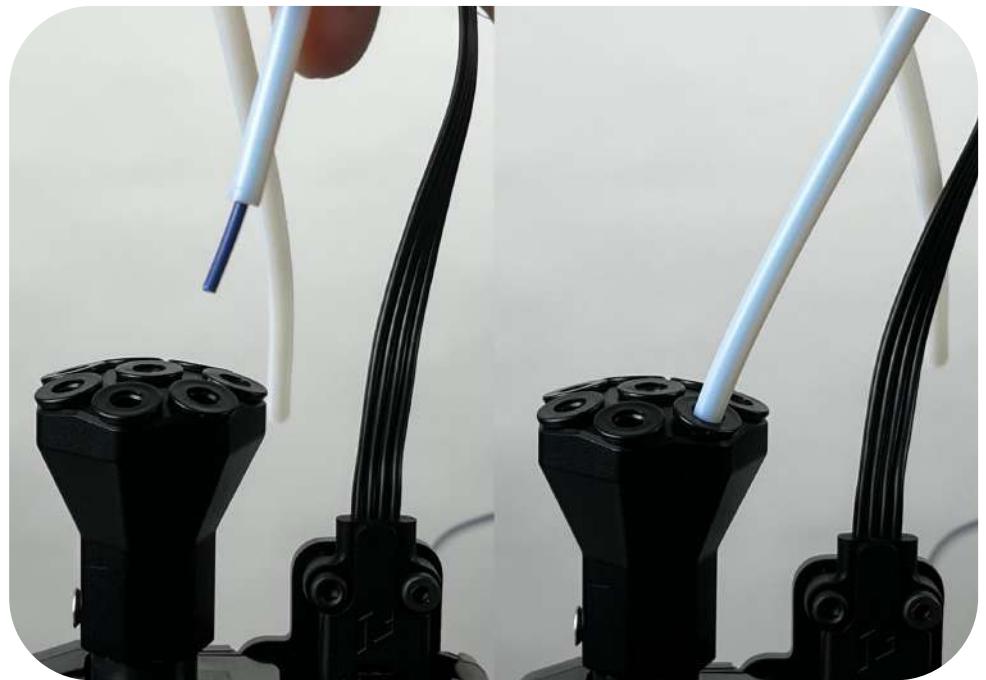
10- After starting your first print, you need to adjust your Z offset. Once you've set it correctly, press the 'save' button. After your print is finished, please remember to click the 'save config' button in Mainsail.

Z-Offset: 0.455			
<input type="button" value="↑ +0.005"/>	<input type="button" value="+0.01"/>	<input type="button" value="+0.025"/>	<input type="button" value="+0.05"/>
<input type="button" value="↓ -0.005"/>	<input type="button" value="-0.01"/>	<input type="button" value="-0.025"/>	<input type="button" value="-0.05"/>
<input type="button" value="CLEAR"/>		<input type="button" value="SAVE"/>	

4.2

First Printing

11- You should remove the filament from the PTFE tube by a maximum of 10mm. If you remove more, the possibility of jamming increases and may cause bad results.



Assembling And Disassembling



Please visit our wiki page to see part replacements of ChromaHead.
<https://wiki.coprint3d.com/en/chromahead>

Visit our wiki page for technical support and assistance about Co Print Series II products.
<https://wiki.coprint3d.com>