



# Connected Mode with Palette 3

How to print in Connected Mode with Palette 3, where Palette and the printer are connected by USB.

Written By: Mosaic Support



# INTRODUCTION

In this guide, you will learn how to:

- Connect the printer to Palette 3 by USB
- How to measure the loading offset for your extruder and how it's used for calibration
- How to start a print

Connected Mode printing is where Palette's splicing and the printer's G-Code are combined into one file. A USB cable is used create a digital connection between Palette 3 and the printer, and stream that single file between the two devices.

If you would like to connect Palette 3 to the Internet and Canvas, please follow the steps [here](#).

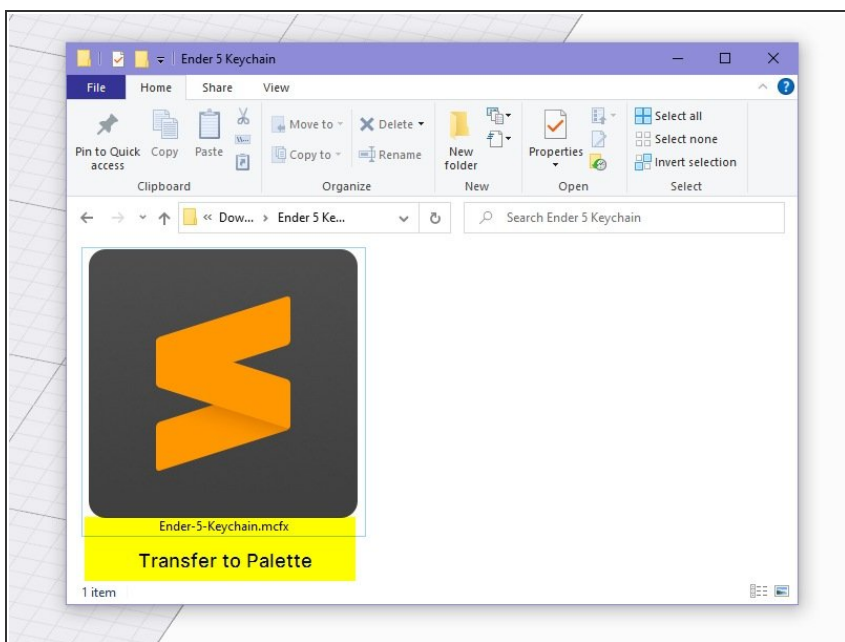
Please also see [here](#) on how to setup and slice for Palette 3 in Canvas.

--

Here are video tutorials on how to print in connected mode for direct drive and bowden extruder printers.

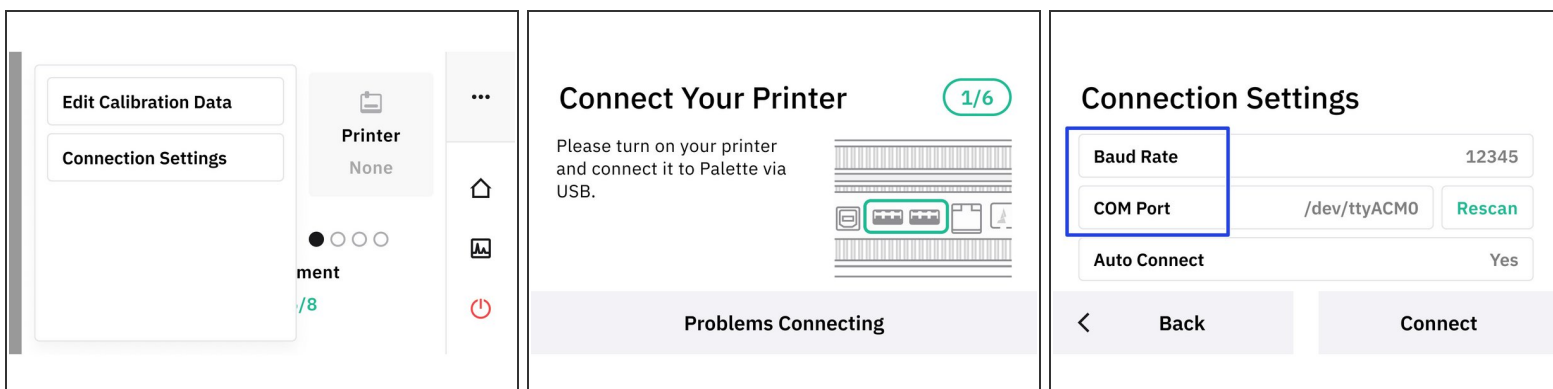
[video: <https://youtu.be/pxVKVC3XuEE>]

## Step 1 — Slice and Transfer Files



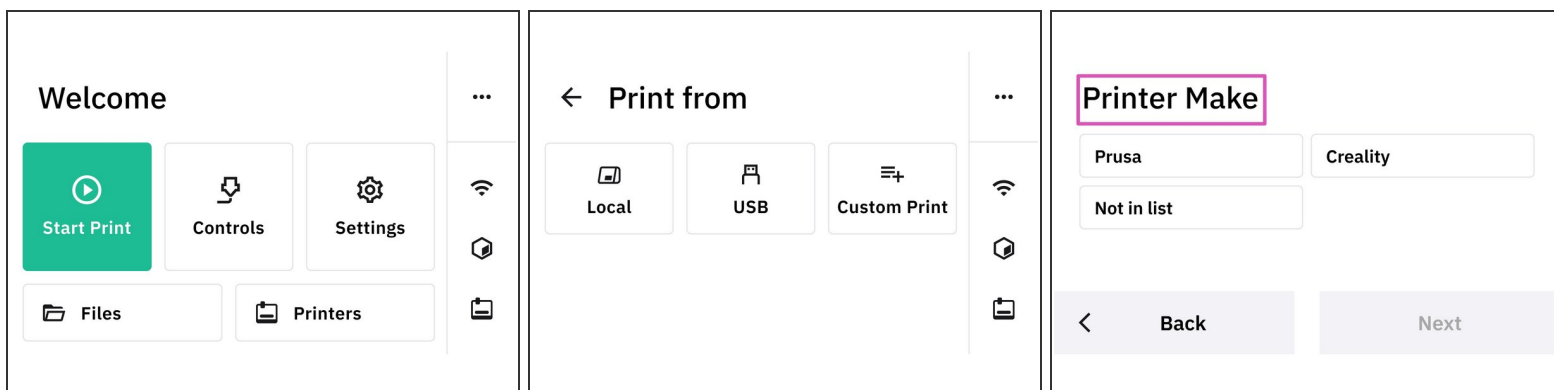
- After [slicing your first multi-color project](#), download the file for printing.
- Transfer the .mcfx to Palette 3 by either sending the file directly (available if [P3 is connected to Internet and Canvas](#)), or download the file and transfer to a USB drive for Palette.

## Step 2 — Connect to Printer



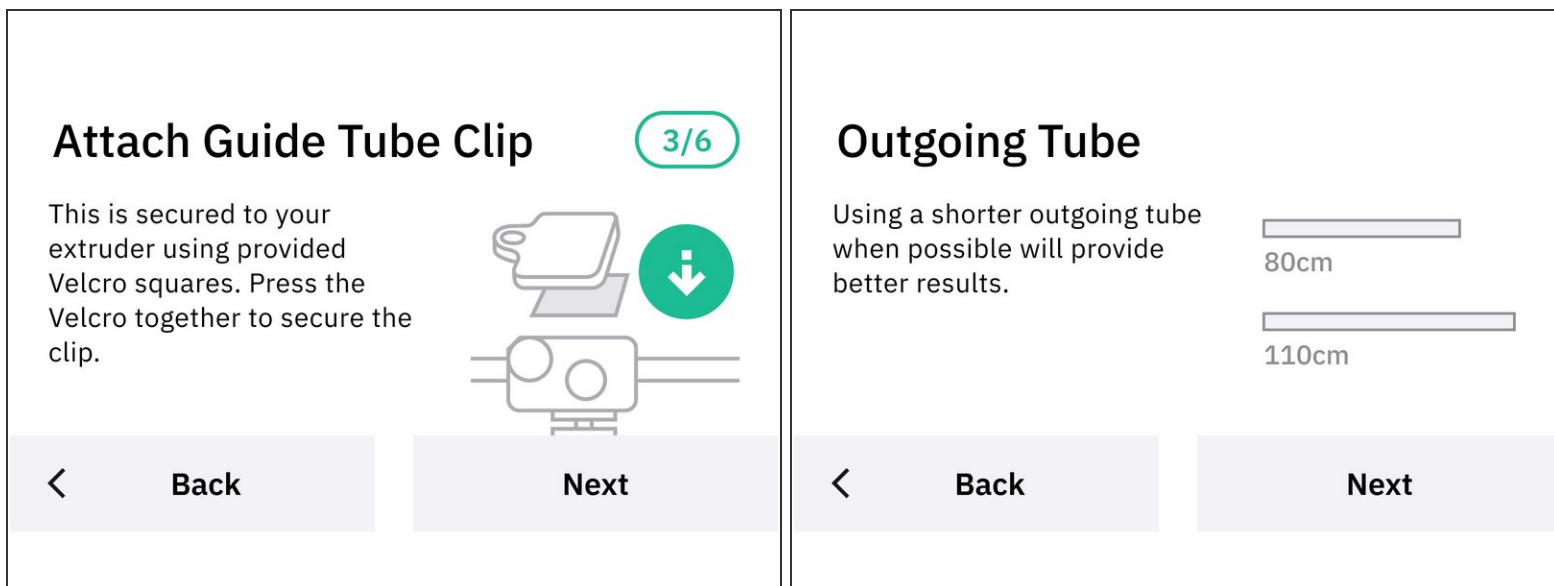
- ❗ If the printer connection was skipped during the initial setup, this can still be done from the status bar menu.
- Connect Palette and the printer by USB cable.
- ❗ If unable to auto-connect, please try a manual connection by entering the baud rate and port for the printer.

## Step 3 — Start Print



- From Palette's menu screen, tap on *Start Print*.
- Select the location for the .mcfx file.
- If Palette 3 is offline, the manual printer selection screen will be skipped.

## Step 4 — Printer Check - Extruder Clip and Outgoing Tube

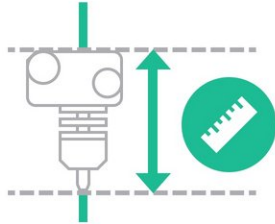


- Check that the extruder clip is attached to the printer.
- Ensure that the correct outgoing tube length is selected on-screen.

## Step 5 — Measure Loading Offset

### Measure Loading Offset

To estimate loading offset, measure the distance from where the tube is clipped onto the extruder to the tip of the nozzle.

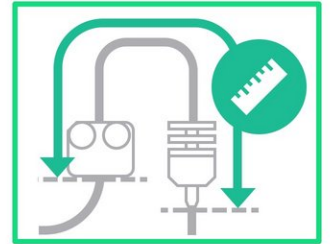


< Back

Next >

### Measure Loading Offset

If your printer uses a bowden extruder, include the bowden tube length when measuring.

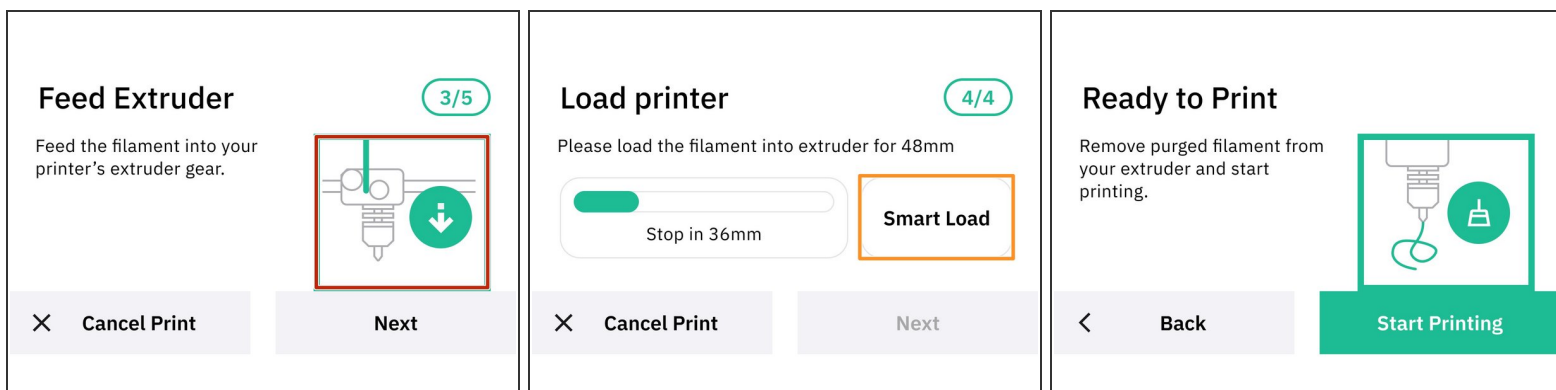


< Back

Next >

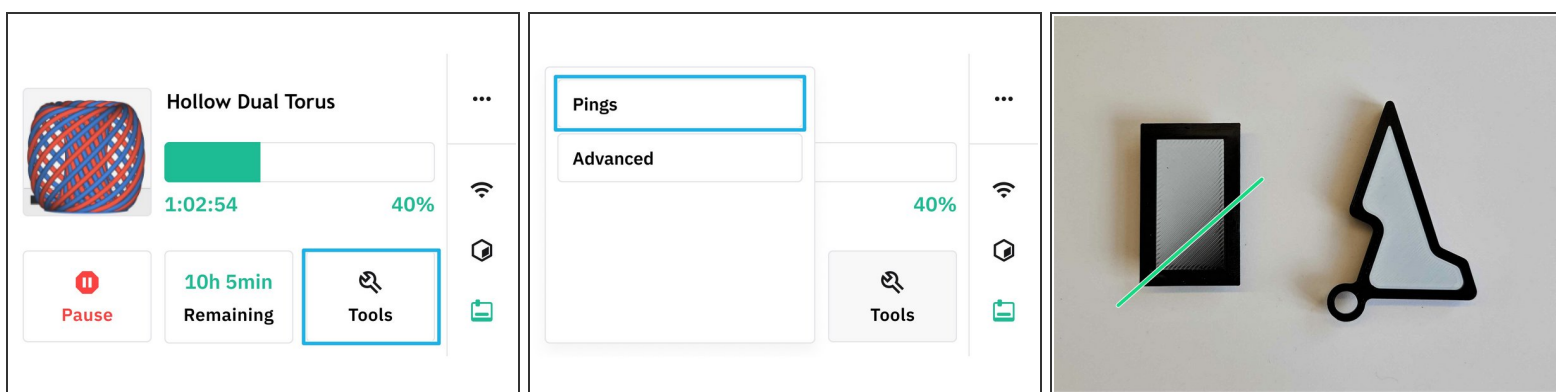
- Enter the loading offset (LO) distance. To do this, please enter the distance between the tube clip on the extruder to the tip of the nozzle.
  - For bowden printers, please measure from the bottom of the extruder, the bowden tube length, and hot end to the nozzle point.
- After saving the LO, your printer's calibration data will be saved. If you are not using one of the preset printer profiles on Palette, feel free to rename the printer for easier identification.
- ① If a preset printer was selected, the loading offset is already stored with the preset. If the printer has a modified extruder, the loading offset will require measurement.
- ① For calibration purposes, the loading offset is used to determine how much filament to create in order to start the print.

## Step 6 — Loading Filament and Starting Print



- Palette will initialize, before prompting to load filament into the inputs.
- ★ The printer will automatically preheat while Palette produces splices.
- Once Palette is done creating the initial splices, there should be about an inch of filament coming out of the outgoing tube. Insert this filament end into the extruder, so it is gripped by the printer's extruder gears.
  - If Palette is connected to WiFi, this can be done through the setup controls on Canvas. Or, you can use the printer's screen/controls to drive filament forward through the extruder.
- Once the filament is gripped by the extruder's gears, jog the filament to insert the tube end into the clip grommet.
  - The remaining filament to load into the extruder will be automatically jogged if smartloading is used.
- Clear the purged filament from the nozzle, and start printing!

## Step 7 — Evaluating Calibration and Next Steps



- **Monitoring calibration:** To view calibration pings while a print is in progress, go to *Tools > Pings* from Palette's screen.
  - ❗ [Click here to learn more about Palette's calibration system in depth.](#)
- **Reviewing print after completion:** If the loading offset for the printer is accurate, the first transition on the tower will appear approximately 30-40% from the bottom-right. The keychain will have a clean border from the interior section.
- **Troubleshooting loading offset from first print:** In the event you find that transitions are happening too early or too late, it's possible that the loading offset for the printer profile is inaccurate. To learn how to adjust this, please see [this guide](#).
- **Next prints and tuning printer profile:** The next set of [multi-material prints](#) completed with this same printer profile will be further tuned by selecting to [save or ignore the print](#) based on pings and calibration data.
  - Example multi-material models for profile tuning can be items like coasters, small animals or figurines.

If you have any additional questions, please send us a message at [support@mosaicmfg.com](mailto:support@mosaicmfg.com).