MONOPRICE

Select Mini 3D Printer V2

P/N 15365, 21711, 21872, 24166

User's Manual

CONTENTS

SAFETY WARNINGS AND GUIDELINES

- Be careful not to damage the yellow film on the build plate.
- Do not remove the insulating tape on the extruder nozzle.
- Take care to avoid touching hot parts, including heat blocks, extruder nozzle, extruded filament, and the heated build plate.
- Do not wear gloves when operating or repairing to avoid entanglement.
- Keep the printer and all accessories out of reach of children.
- Do not remove or disconnect the USB cable when printing from a computer.
- Do not pull or twist the black cable at any time.
- Do not force or tear anything when during unpacking and setup. This may cause damage to the printer and/or its accessories.
- Do not reach inside the printer during operation.
- Always allow the printer and extruded filament to cool before reaching inside.
- Ensure that the printer is turned off and unplugged from its power source before making repairs or performing service.
- Do not install this device on an unstable surface where it could fall and cause either personal injury or damage to the device and/or other equipment.
- Do not subject the product to extreme force, shock, or fluctuations in temperature or humidity.
- This device is intended for indoor use only.
- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device. If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.
- Do not touch the device, the power cord, or any other connected cables with wet hands.
- Use only in a well-ventilated area. Do not use in close, confined spaces.

- Prior to operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.
- Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.
- Unplug this device from the power source when not in use.
- Take care to prevent damage to the power cord. Do not allow it to become crimped, pinched, walked on, or become tangled with other cords. Ensure that the power cord does not present a tripping hazard.
- Never unplug the unit by pulling on the power cord. Always grasp the connector head or adapter body.

INTRODUCTION

Thank you for purchasing this 3D printer from Monoprice! This printer features a single extruder, which is capable of printing in PLA, ABS, and other materials. You can print from a Windows® or Mac® PC using a USB connection or can print from 3D model files stored on a microSD™ card, without the need for a PC connection of any kind. This printer is easy to setup and easy to use following the instructions in this manual.

FEATURES

- Single extrusion print head
- Can print PLA, ABS, and other materials
- Open frame design for ease of use and maintenance
- Includes 256MB microSD™ card with Cura, Repetier-Host, and a sample 3D model

CUSTOMER SERVICE

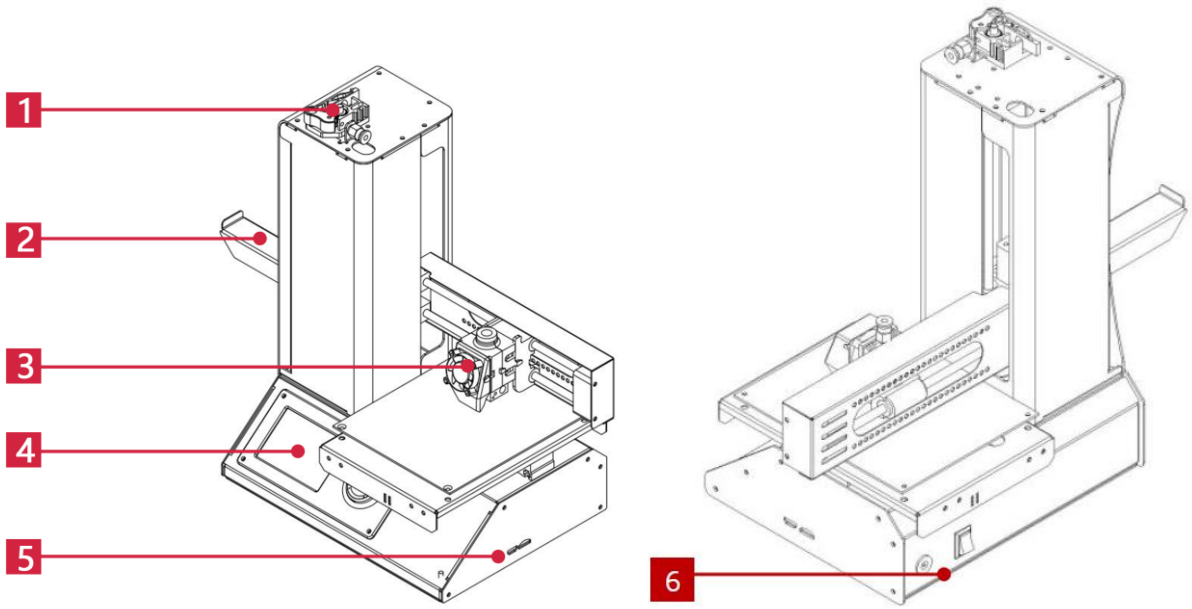
The Monoprice Customer Service department is dedicated to ensuring that your ordering, purchasing, and delivery experience is second to none. If you have any problem with your order, please give us an opportunity to make it right. You can contact a Monoprice Customer Service representative through the Live Chat link on our website **www.monoprice.com** during normal business hours (Mon-Fri: 5am-7pm PT, Sat-Sun: 9am-6pm PT) or via email at **support@monoprice.com**

PACKAGE CONTENTS

Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact Monoprice Customer Service for a replacement.

- 1x 3D printer
- 1x Filament rack
- 1x Plastic scraper
- 1x USB cable
- 1x MicroSD™ card
- 1x Hex wrench
- 1x Power adapter
- 1x AC power cord (NEMA 5-15 to IEC 60320 C13)

PRODUCT OVERVIEW



1. Feed Mechanism
2. Filament Rack
3. Extruder
4. LCD Display
5. Micro USB and MicroSD Ports
6. Input Power Jack and Power Switch

USING THE MENU SYSTEM

- The menu system is displayed on a lighted LCD screen.
- The menu selection highlight or pointer is moved by pressing the top and bottom buttons to the right of the display.
- Pressing the top button moves the highlight/pointer to the left and up.
- Pressing the bottom button moves the highlight/pointer to the right and down.
- Pressing the top button while editing a value decreases that value.
- Pressing the bottom button while editing a value increases that value.
- Press the center button to activate the selected menu item or to save an edited value.

SETUP

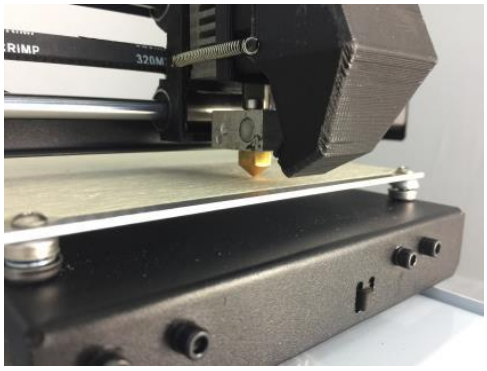
Warning! Take care not to remove or damage the yellow tape on the build platform. This tape is essential to ensure the 3D model properly adheres to the build platform during printing. If this tape becomes damaged or wears out, replace it with painter's tape, Kapton® tape, or ordinary masking tape.

Perform the following steps to prepare the printer for use.

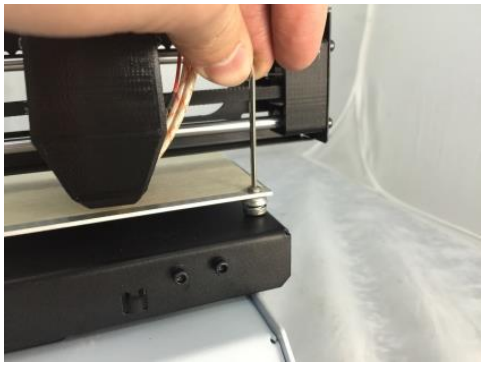
1. Remove the printer from its packaging and place it on a flat, stable surface with plenty of ventilation and a nearby AC power outlet.
2. Open the Accessories box and remove the Filament Rack. Slide the tab at the flat end into the slot on the left side of the printer frame.
3. Ensure that the power switch on the rear panel is in the OFF position (**O** side depressed). Plug the C13 end of the included AC Power Cable into the C14 panel connector on the AC Power Adapter, then plug the other end into a nearby AC power outlet. Depress the **I** side of the power switch to power the printer ON.

4. Rotate the control wheel clockwise to move the highlight to the **Move** entry, then press the center of the control wheel to open the Move menu.
5. Rotate the control wheel clockwise to move the highlight to the **Home Axis** entry, then press the center of the control wheel to activate the Home Axis function. The printer will move the extruder head to the "home" position.
6. Turn the printer off by depressing the **O** side of the power switch.
7. Slide a sheet of A4 paper between the build platform and the extruder nozzle. The extruder height above the build platform should be 0.05mm, which is the thickness of a sheet of A4 paper. The extruder is at the correct height when the sheet of

paper can be slid between the nozzle and the platform without binding. When the extruder head is moved or when the paper is moved under it, there should be a slight amount of resistance, but the paper should not be dragged with the extruder when it is moved.



If the height is incorrect, use the included hex wrench to make slight adjustments to the platform height by turning the screws at each corner of the platform. Turn the screws clockwise to lower the platform and counterclockwise to raise the platform. Turn the wrench no more than 1/4 turn each time, then recheck the height. Continue checking and adjusting until the height is correct at all points on the platform.

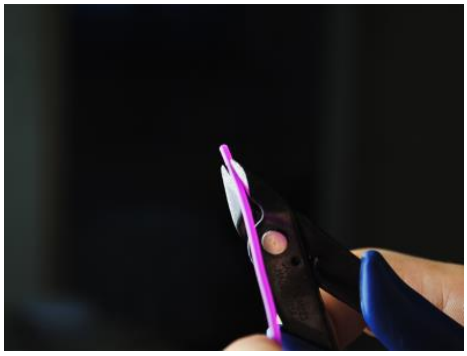


8. Insert the included microSD™ card into the slot on the right side of the printer.

9. Turn the printer on by depressing the **I** side of the power switch on the rear panel.
10. Rotate the control wheel clockwise to highlight the **Temperature** entry, then press the control wheel to open the Temperature menu.

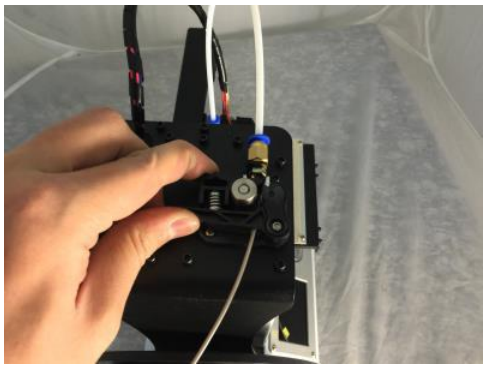
11. Use the control wheel to highlight the **Extruder** entry, then press the control wheel to edit the value. Rotate the control wheel to set the temperature to the target temperature for the type of filament you plan on using.
12. Using the same procedure, set the **Platform** temperature to the target temperature for your filament type.

13. If the button under the Extruder and Platform reads Start Preheat, use the control wheel to highlight the **Start Preheat** entry, then press it to start preheating the extruder and build platform. The button will change to read Stop Preheat and the Extruder and Platform buttons will read the actual temperatures.
14. While the printer is heating, open your filament. Using a pair of scissors or side cutters, diagonally snip the end of the filament to make a point, as shown in the images below.




15. Using the control wheel, navigate to the **Move** menu, then select the **Z Axis** option and press the wheel. Turn the control wheel counterclockwise to raise the extruder off the build platform.

16. Place the filament reel on the filament rack on the left side of the printer.
17. While squeezing the lever on the Feed Mechanism, insert the filament and push it into opening. Keep pushing until you feel resistance as it hits the extruder. Release the lever on the Feed Mechanism.

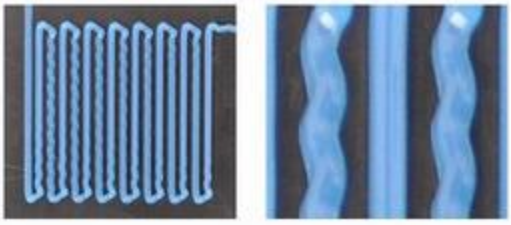
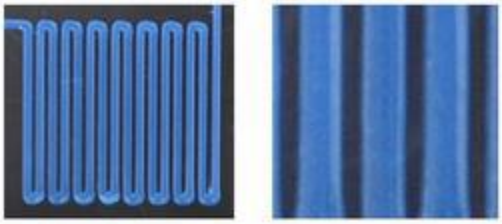


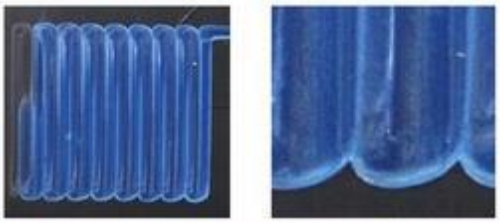
18. Using the control wheel, highlight the **Extruder** entry on the **Move** menu. Press the control wheel, then turn it counterclockwise to feed filament into the extruder. Continue until filament starts to extrude out of the nozzle. Wait until filament is no longer coming out of the nozzle.

19. Using the included plastic scraper, clean the extruded filament from the nozzle and build platform.

20. Using the control wheel, select the **Print** option from the main menu. The printer will read the contents of the microSD™ card and display them on screen. Highlight the **cat.gcode** file, then press the control wheel to start printing the model.

21. After the first layer has been laid down, use the control wheel to **Pause** or **Cancel** the printing operation. Examine the layer and compare the printed material with the images in the table below. If the result is wrong, turn off the printer and re-adjust the platform height as indicated. Clean off the printed material using the included plastic scraper, then print the model print again. Keep repeating this process until the result is correct.

Wrong		The nozzle is too far from the platform. This can result in the extruded material not sticking to the build platform.
Correct		The nozzle is at the correct height above the platform.

Wrong		The nozzle is too close to the platform. This can result in damage to the nozzle and build platform.

Congratulations, your 3D printer is setup and ready for use!

WI-FI SETUP

You can connect the printer wirelessly to a 2.4Ghz Wi-Fi® network to print models from your Android™ or iOS® phone or tablet. Perform the following steps to setup the Wi-Fi connection for your device.

1. Download the free **MP 3D Printer WiFi Connect** app from the Google Play Store or from iTunes, depending on which type of mobile device you have.
2. Disconnect the USB cable from the printer. You cannot use USB and Wi-Fi connections at the same time.
3. Power on the printer.
4. Start the **MP 3D Printer WiFi Connect** app.
5. The SSID of your Wi-Fi network should be displayed on screen. If a different SSID is displayed, open your device's Wi-Fi settings and select the appropriate Wi-Fi network.
6. Enter your wireless password.
7. Use the printer's buttons to navigate to the **Move** menu.
8. Press and hold the center button for 3 seconds. Release the button when **Smart config started** is displayed on screen.
9. Press the **Connect to WiFi** button on your mobile device. The connection will be completed within 10 ~ 60 seconds and the message **MP Select Mini is now**

connected to Wi-Fi will be displayed on your device's screen and the IP address will be displayed at the top of the printer's LCD screen.

Note that you may have difficulty connecting to the Wi-Fi network if you have a 2.4GHz and 5GHz network with the same SSID. Try changing the SSID of the 5GHz network if this occurs. For best results, move the printer to a location closer to the Wi-Fi router or access point.

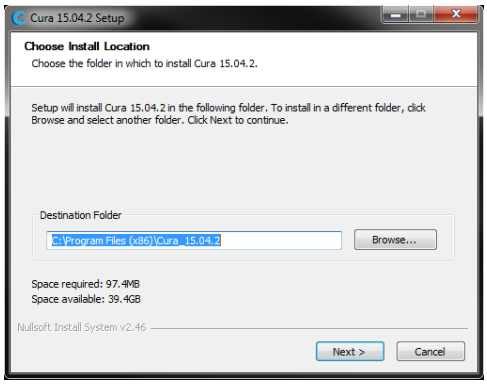
SOFTWARE INSTALLATION AND SETUP

As you've seen, you can print a model directly from a gcode file on a microSD™ card and this is the preferred method, as it does not require a continuous connection to your computer. You can download gcode files to the microSD card and print them without having to build any model files.

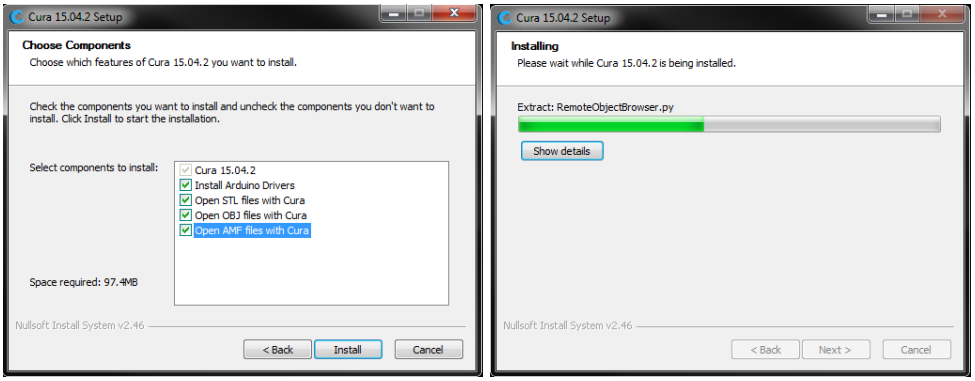
However, you can create your own gcode files using an open source program, such as Cura or Repetier-Host, which are pre-installed on the microSD card that comes with the printer. These programs use M200 models (typically .STL or .OBJ files) and, using machine specific information, generate a gcode file with detailed instructions for the printer to create the selected model. We recommend you start with Cura, since it includes a Slicing Engine.

Installing Cura for Windows

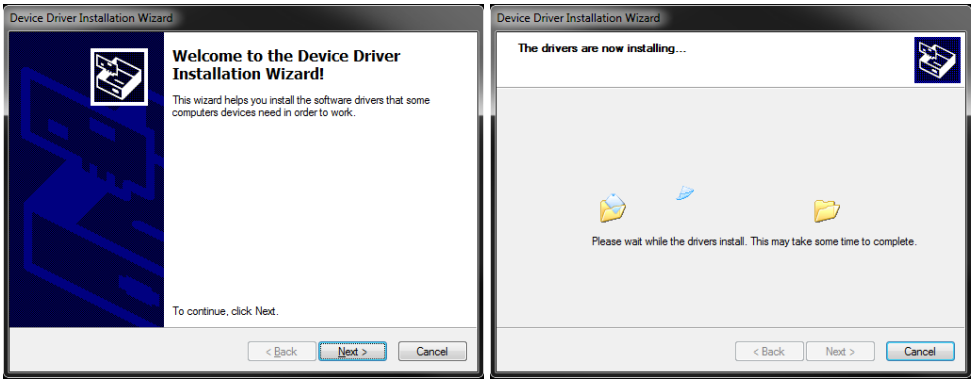
1. Use a card reader to read the contents on the included microSD™ card. Locate and double-click the **Cura_15.04.2.exe** file to start the setup program.
2. You may choose a new location for the program files or accept the default (recommended). Click **Next** to continue.



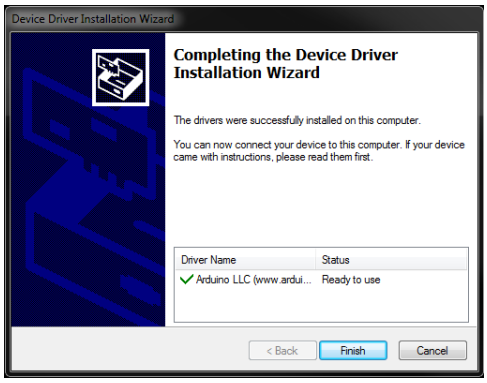
3. Ensure that all boxes are checked, then click **Install** to continue.



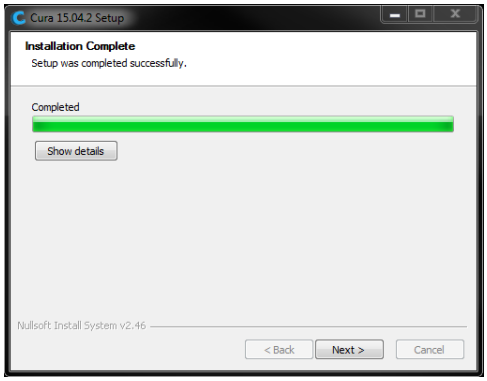
4. Once the files have been extracted and the Cura installation is complete, the driver installation wizard will launch. Click **Next** to continue.



5. Click **Finish** to complete the driver installation.

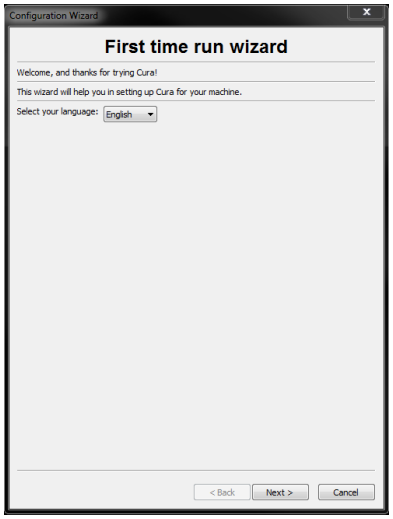


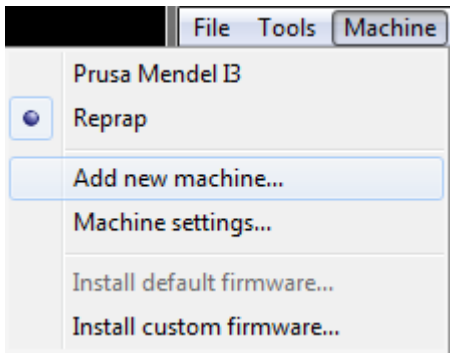
6. Click **Next** to continue.



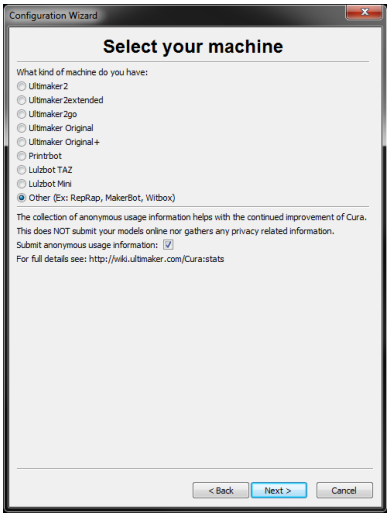
7. Ensure that the box next to the **Start Cura 15.04.2** option is checked, then click **Finish** to complete the installation and launch the program.

8. Wait for Cura to finish launching. If this is the first time you have run Cura on this machine, Cura will automatically launch the **First time run wizard**. Otherwise, you will need to select **Machine > Add new machine**.

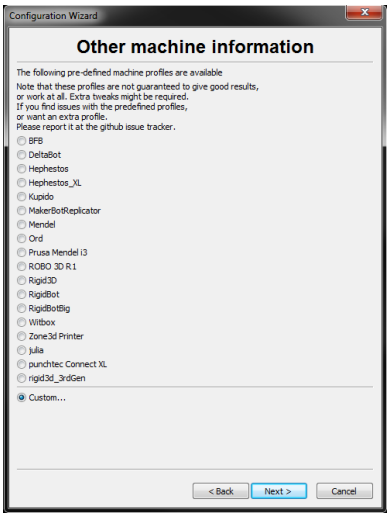




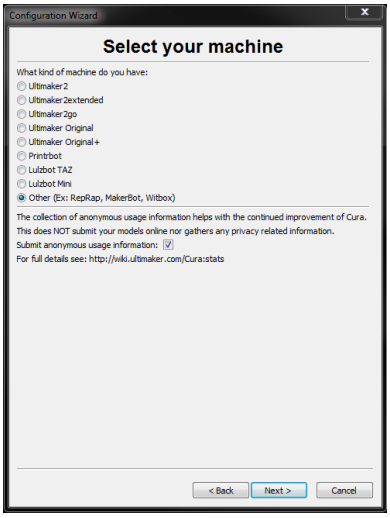
9. Click the button next to the **Other** option, then click the **Next** button to continue.



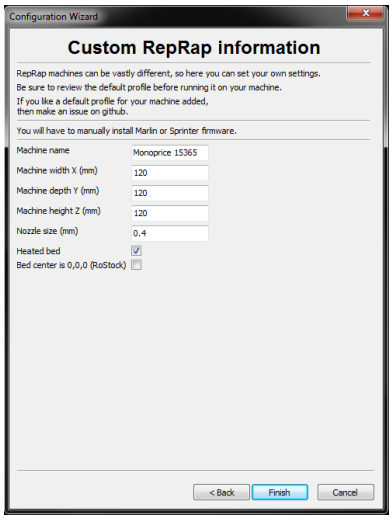
10. Select the **Custom...** option, then click **Next** to continue.

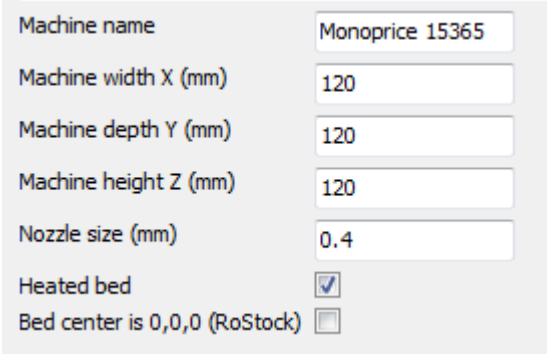


11. Click the button to the left of the **Other** entry, then click **Next** to continue.

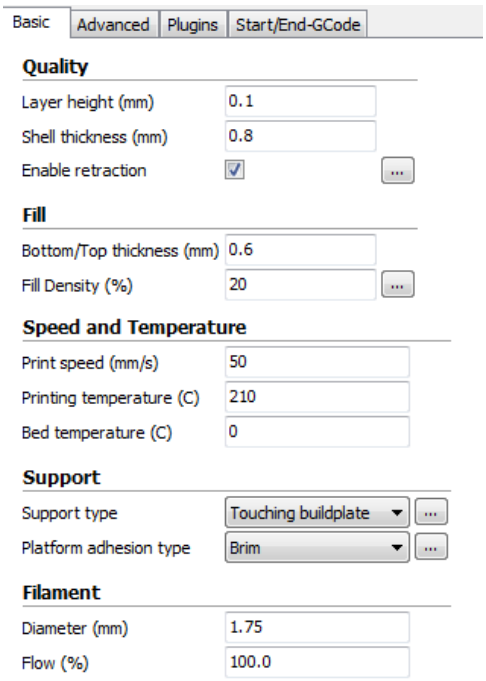


12. Change the settings to match those shown in the images below, then click **Finish** to continue.





13. The program will finish launching and leave you on the main screen. Select the **Basic** tab, then change the settings to match those in the accompanying image for PLA filament.



Note that the **Fill density**, **Support type**, and **Platform adhesion type** options should be set according to the needs of the model you are printing.

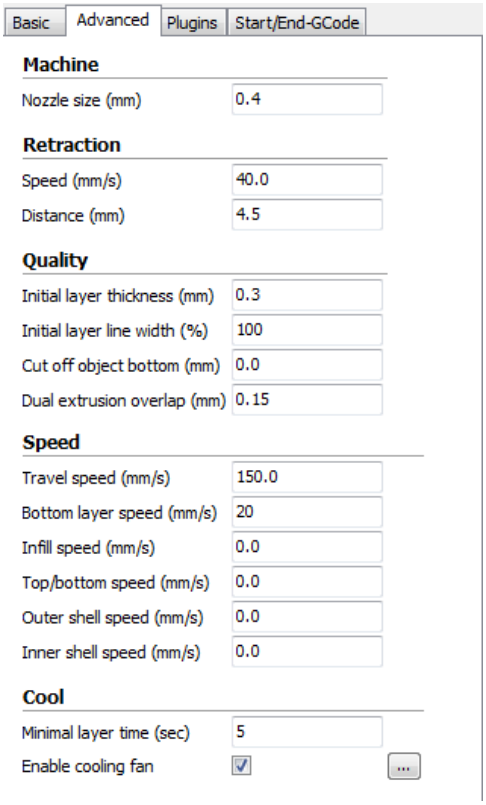
The **Fill density** will determine the overall strength of the finished object. If printing a decorative object, a low fill density is appropriate. However, if printing an object that will be used as a tool or part (e.g., a gear), a high fill density will impart maximum structural strength to the finished object.

If printing something with no overhang, such as a cube, you can set the **Support type** to **None**. If the model has areas that overhang the build plate, but which are not overhanging a lower section, you can use the **Touching buildplate** option. The **Everywhere** option is usually only necessary for very complex models with parts that overhang other parts.

In most cases, the **Brim** option for the **Platform adhesion type** is sufficient and is easier to remove and clean up. The **Raft** option builds a flat layer on which the model is then built and will need to be removed once the print is complete.

Feel free to experiment with these options to achieve the best possible print.

14. Click the **Advanced** tab, then change the settings to match those in the accompanying image. Note that if you have a very high fill density (from the previous step), you will want to increase the **Cool** down time (**Minimal layer time**) to 10 seconds.

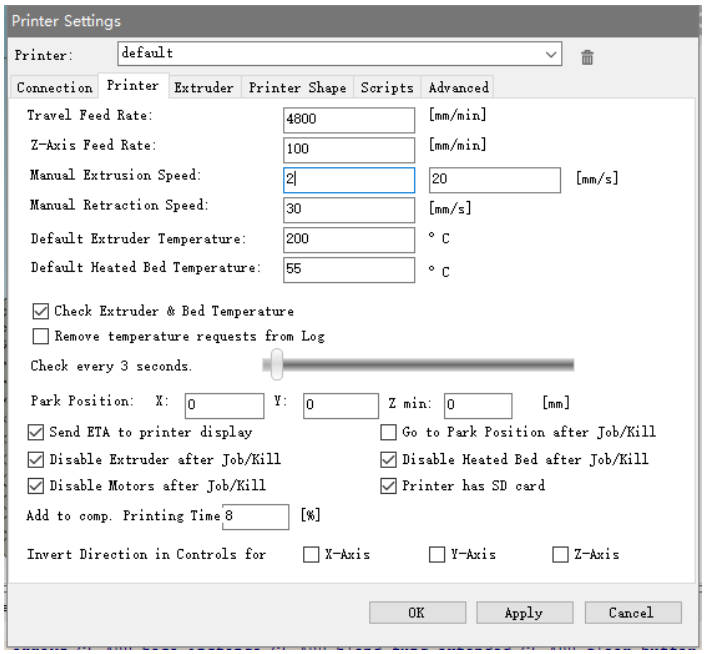


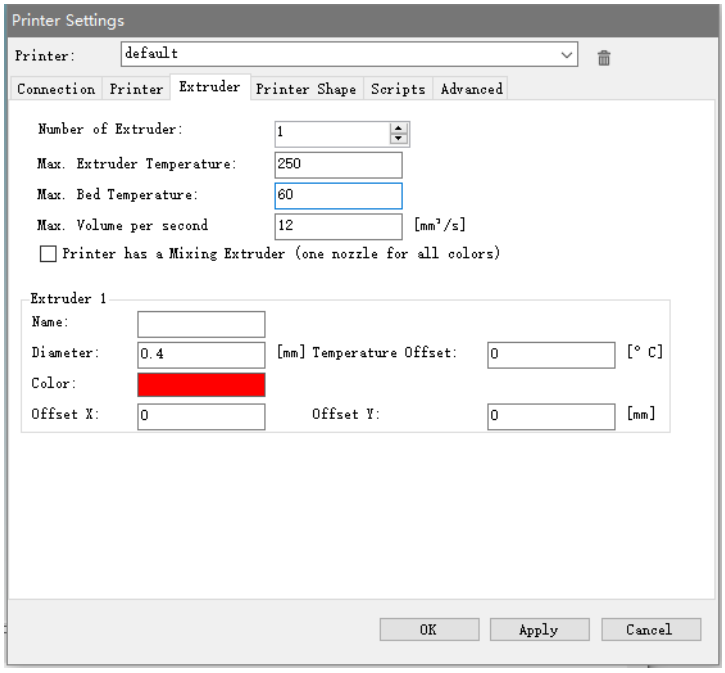
15. Finally, using the included Micro USB cable, plug one end into the USB port on the printer, then plug the other end into an available USB port on your computer. Watch the right hand corner of the screen. A bubble will appear in the lower right corner of your desktop, which is telling you that Windows is installing the necessary printer drivers. Click the bubble and verify that the drivers have been properly installed.

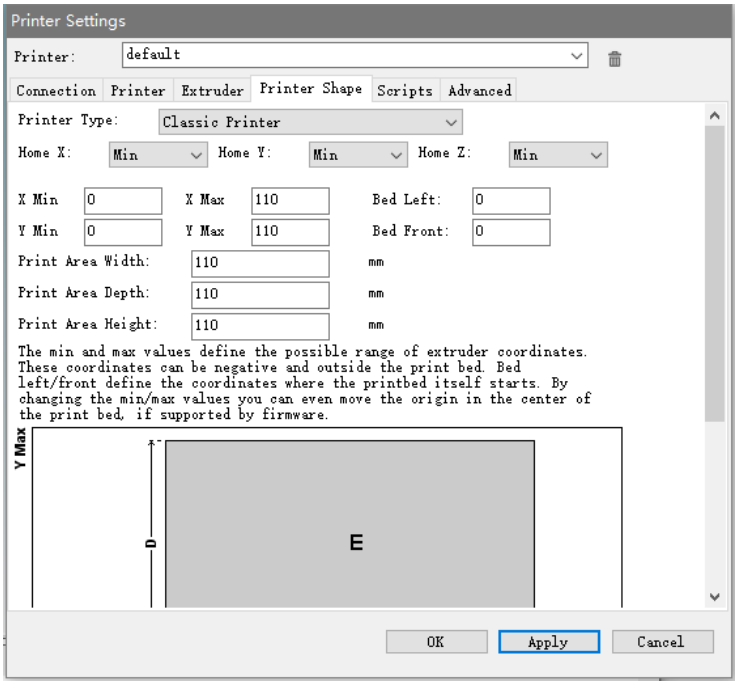
Congratulations, you have installed Cura and connected your PC to your new 3D printer. Refer to Cura's documentation for operating details and information on the various options.

Repetier-Host

You can also install Repetier-Host from the file on the included microSD™ card or from a download from the internet. The screenshots below show the proper settings to use for this printer in Repetier-Host.




Printer Settings
Printer: default
Connection Printer Extruder Printer Shape Scripts Advanced
Number of Extruder: 1
Max. Extruder Temperature: 250
Max. Bed Temperature: 60
Max. Volume per second 12 [mm³/s]
Printer has a Mixing Extruder (one nozzle for all colors)
Extruder 1
Name:
Diameter: 0.4 [mm] Temperature Offset: 0 [° C]
Color:
Offset X: 0 Offset Y: 0 [mm]
OK Apply Cancel


Printer Settings
Printer: default
Connection Printer Extruder Printer Shape Scripts Advanced
Printer Type: Classic Printer
Home X: Min Home Y: Min Home Z: Min
X Min 0 X Max 110 Bed Left: 0
Y Min 0 Y Max 110 Bed Front: 0
Print Area Width: 110 mm
Print Area Depth: 110 mm
Print Area Height: 110 mm
The min and max values define the possible range of extruder coordinates. These coordinates can be negative and outside the print bed. Bed left/front define the coordinates where the printbed itself starts. By changing the min/max values you can even move the origin in the center of the print bed, if supported by firmware.
Y Max
D
E
OK Apply Cancel

TECHNICAL SUPPORT

Monoprice is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website **www.monoprice.com** during regular business hours, 7 days a week. You can also get assistance through email by sending a message to **tech@monoprice.com**

REGULATORY COMPLIANCE

Notice for FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice for Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.