



MAKERGEAR



ULTRA ONE

USER GUIDE



Welcome



Your MakerGear Ultra One 3D Printer has arrived! To ensure safety as well as high quality printing, carefully follow the checkpoints laid out in this guide.

This printer was assembled at the MakerGear shop in Beachwood, Ohio, USA, and was thoroughly tested to ensure that it was fully operational at the time of shipping.

What's Included

Your shipment includes everything you need to run. The power cord and a large sample print are in your filament compartment.



The white box contains two spools of PLA filament, coffee mug, sample print, sucker, tools, tweezers, spare hot end, spare probe tips, Simplify 3D license, and this user guide.



Important Safeguards



1. The following safeguards exist to ensure the safety of users and to avoid potential risks. Ignoring these safeguards can cause damage to the printer and its environment.
2. Unplug the power cord when the printer is not in use. To unplug, grasp the plug and firmly pull it from power outlet. You should never pull the cord.
3. To protect against electrical shock, do not put the printer body, cord, or electrical plug in liquid. If the printer falls into liquid, do not touch it. Instead, unplug the printer from power outlet, then remove it immediately. Do not reach into the liquid without unplugging the printer first.
4. This printer should not be used by children unless supervised by an adult who understands the risks and precautions involved in its use. To avoid potential injuries, close supervision is necessary when the printer is used by or near children.
5. Avoid any contact with moving parts. The printer can move quickly, so stay clear to avoid being struck or pinched.
6. Keep hands/hair/clothing away from printer attachments while the printer is operating to reduce risk of injury to persons and/or damage to the printer.
7. Do not operate the printer if it has a damaged cord/plug, is malfunctioning, or has been dropped or damaged in any way. If you are having any problems with the printer (such as temperature errors, unexplained shutdowns, or other erratic behavior), unplug the printer from power outlet and contact support. **Do not operate a malfunctioning printer.**
8. Keep area around the printer clear. The enclosure door and filament door move horizontally and vertically and may cause the printer to move or damage other equipment if they strike them.



Software Check Points



The check points below are also at setup.makegears.com/u1, where further information and applicable links are available for each check point.

1. Uncrate your printer and move it to a sturdy surface.
Remove the orange belt clamps from each of the four belts.
2. Remove the power cord from your filament compartment, plug in your printer to a dedicated 20 A circuit, and power on your printer.
3. Connect to your printer and log into Octoprint
 - a. Ethernet:
 - Connect your printer to your router with an ethernet cable
 - Login to Octoprint with username “printer” and your serial number as the password
 - b. WiFi:
 - Connect to your printer’s Access Point from your computer
 - Login to Octoprint with username “printer” and your serial number as the password
 - Migrate your printer to your wireless network
 - Re-connect to Octoprint using the same credentials

Detailed WiFi Setup Instructions

Step 1: Enter your printer’s serial number, which is located on the inside of the printer’s filament compartment. Next, connect your computer to the Ultra One’s Wi-Fi, using the provided network name and password, in the same way that you would connect to any other Wi-Fi source.

Step 2: After moving to the Step 2 tab, click the temporary setup link and log in to OctoPrint with the provided username and password.

Step 3: OctoPrint will inform you that you are not connected to the internet. Click “Wireless Configuration,” then select your home network and enter your home network’s password. Connecting may take a few minutes. If OctoPrint continues to say you are not connected to the internet, refresh the page.

You will not have to go through the setup process again unless you change networks or factory restore the printer.

4. Run Quick Check in Octoprint:
After you're connected to the printer, proceed to OctoPrint's Quick Check, which will help you load the filament and ensure that the heated build platform of the printer stayed level during shipping.
5. Print 4 hour, 42 minute sample:
Once you complete the Quick Check, we recommend that you print the sample print and compare it to the print that we shipped with the printer. More details on how to print this object are on the final page of Quick Check.
6. Learn about slicing and printing your own objects:
Please visit <http://makergear.zendesk.com>
7. Learn to use LCD
Also available at <http://makergear.zendesk.com>

About Octoprint

The onboard software supplied on the MakerGear Ultra One is a specialized version of OctoPrint called OctoPrint for MakerGear. It is an open-source, easy-to-use tool that gives users total control over their 3D printing work-flow.

OctoPrint's basic functions include simple tasks such as controlling and monitoring your printer, as well as more advanced operations like slicing files. It can be expanded through its versatile plugin system, a diverse library of community developed plugins offering specialized functionality, which is useful for all users.

Notice

This is a Class A product. In a domestic environment, this product may cause radio interference requiring the user to take adequate measures to mitigate. The MakerGear Ultra One can, in very rare cases, stop operating due to electrostatic discharge (ESD). Operation can be restored by turning the machine off and on again.

Important Tips and Information

Main Enclosure Door

Keep the main enclosure door closed except when loading filament, preparing your bed, or removing a printed object. This will deliver better print quality and more consistent results as well as keep everyone in the area safe. There are many pinch points and heated components inside the enclosure around which to be careful. When opening and closing the door, ensure that no one could be potentially harmed by the moving mass.

Nozzles and Hot Ends

The nozzle is the brass conical piece with a six sided base. It attaches to the other parts of the hot end and dispenses material through a precisely sized hole. **If you wish to remove or change the nozzle, you must first remove the entire hot end. Attempting to unscrew the nozzle directly from the Ultra One will damage the hot end.**

Glass Build Plate

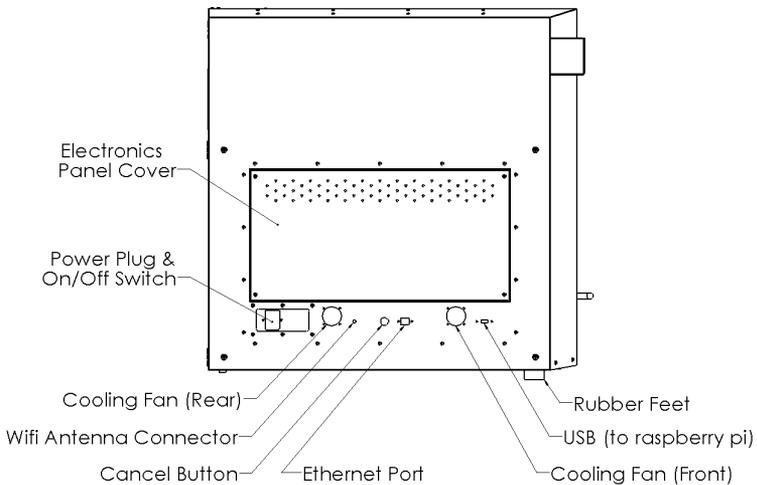
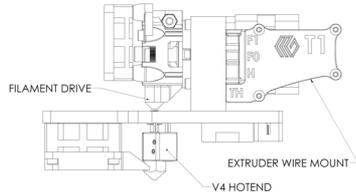
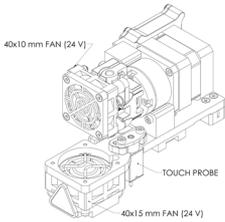
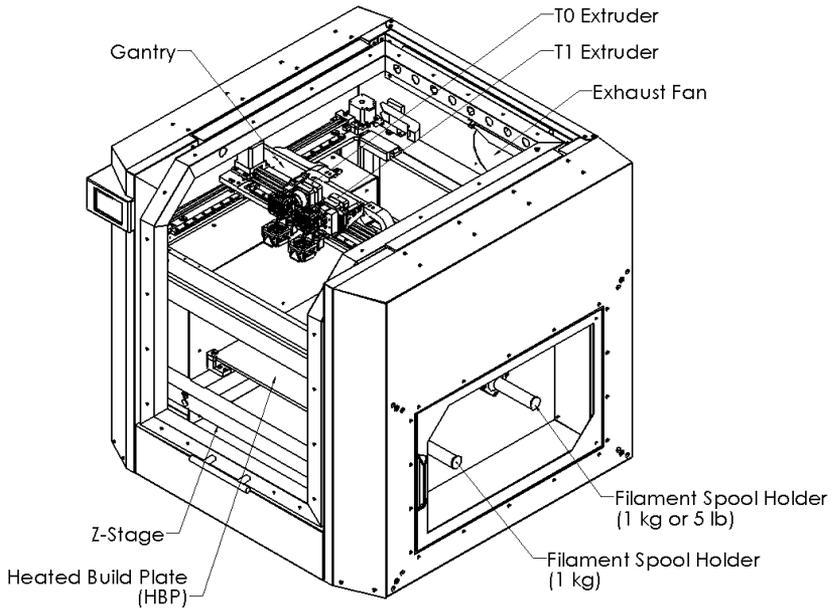
The film of yellow polyimide tape on the Ultra One's glass build plate functions as the print surface and is on both sides. Once an object has been printed and the build plate has cooled, users can remove the build plate by rotating the build plate clips in each corner. Removing a print from the build plate can be done by further cooling the glass plate with compressed air and tapping the object softly until it releases. Tools used directly on the plate may damage the film.

USB Port

G-code and .stl files stored on a USB drive in a folder named "toprint" (case sensitive) will be automatically copied to the internal storage of the Ultra One in the folder named "USB".

Cancel Button

To immediately cancel a print and stop any machine operations, press the cancel button. Before resuming use of the printer, ensure that the cancel button is not pressed in. We recommend re-booting your printer after hitting the cancel button.



Warranty & Support

Warranty

New Ultra Ones ordered from MakerGear or from an authorized MakerGear distributor have a Twelve-Month Limited Warranty. MakerGear will replace defective parts on Ultra Ones that are under warranty. Replacement parts may be new or refurbished and include free shipping in the US. Non-US customers are responsible for shipping costs for replacement parts.

Exceptions

The Ultra One has an open design (no proprietary filament cartridges) and Ultra One owners are free to use third party filament. However, the MakerGear hot end is only covered when MakerGear filament and authentic MakerGear components are used. Due to variance in quality, MakerGear is unable to provide technical support for issues related to third party filament. If you are using filament or extruder components from a third party, you must contact your supplier for technical support. The twelve-month warranty offered by MakerGear does not cover printer abuse.

Support

Technical Support lives on our website at
www.makergear.com/pages/support