

MoonRay D/S Quick Start Guide



Hello!

Thank you for choosing MoonRay, and welcome to the cutting edge of desktop 3D printing!

This guide is going to go over the basics of getting your MoonRay up and running.

We highly recommend you set up an appointment with us to guide you through the setup process and your first print. Call or follow the link in your purchase confirmation email to schedule a time.

Never hesitate to reach out to us or explore our website for more advanced tips.

We can't wait to see what you make with your MoonRay!

-The SprintRay Team

Technical Glossary

Additive Manufacturing: The process of fabricating a part by adding material in layers (also known as **3D Printing**).

Digital Light Processing (DLP): A display device where each pixel is controlled by a microscopic mirror. Our UV projector uses **DLP** chip to cure your prints.

CAD (Computer Aided Design): any software used to generate and edit 3D Models.

RayWare: The slicing and control software for your **MoonRay** 3D printer.

Slicing: The process of turning a 3D model into a print file containing instructions for your **MoonRay** 3D printer. Use **RayWare** to slice your models.

MeshMixer: A free **CAD** tool for 3D printing.

Layer Height: The thickness of each individual layer of the model when cut with a slicing program, measured in Microns (1/1000th of a mm).

.STL & .OBJ: Two common file formats for 3D models that are compatible with **RayWare**.

.SSJ: A file format made by **RayWare** that contains a sliced print job. Load these files in the **Manage Printers** or **View Print Job** screens in **RayWare**.

Build Platform: The metal platform that your **MoonRay** prints onto. Also known as a printbed.

Resin: The liquid photopolymer cured by your 3D printer to make objects.

Resin Tank: This holds the **Resin** bath that you print in. Be careful to never scratch the glass or puncture the film layer when cleaning your resin tank.

Resin Tray: Aluminum with a glass center, this is the lower piece of the **Resin Tank** Assembly.

Resin Drum: This is the upper part of the **Resin Tank**.

Overhang: When a layer extends outward, potentially unsupported, over the previous layer.

Supports: Removable scaffolding structure built to help parts of an object that would otherwise print with no material to attach to.

What's in the box

When buying a **MoonRay** 3D printer, you will receive 2 packages: one box includes the printer and its necessary hardware, and the other includes your finishing kit and resin. If you bought additional resins they may have been packaged/shipped separately.

- Lay the box on its back, so the **MoonRay** text and drawing of the machine are facing up.
- Open the box and remove the accessory package.
- Your new **MoonRay** sits within two foam packing inserts. Remove the top foam insert, then you'll be able to easily lift out **MoonRay**. **MoonRay** is heavy, so please use caution when lifting. Save all of the packaging, including these foam inserts, in case you need to ship your **MoonRay** in the future.
- Also between the foam inserts are two boxes containing the resin tank and a spare resin drum. Remove these. The power converter will be below the bottom foam insert.

Setting up your MoonRay

MoonRay should only be used on a solid, stable surface that is level and well ventilated.

First, slide the resin tank into the base of the machine, ensuring that it catches the channel. The handle will be facing out when the tank is inserted correctly.



Then, place the build platform on the print arm and lock it securely with the handle.

MoonRay Resin

Before pouring resin into the tank, shake the bottle thoroughly. Pour resin into the tank, being mindful of the min and max fill lines, then stir using the provided black squeegee until it is completely mixed. Never use a metal or hard plastic scraper in the resin tank, if you scratch the glass or puncture the film you will need to replace those parts.

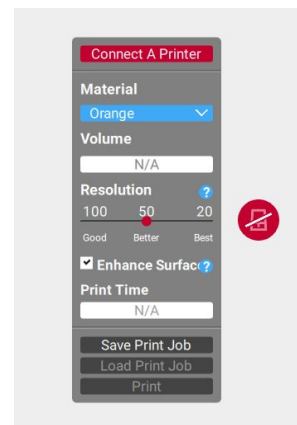
You can leave resin covered in the printer for up to three days. When not in use, it is recommended you pour excess resin through a screen or fine mesh back into the bottle.

RayWare

Download RayWare at <https://www.sprinray.us/download>

Click the icon with a line through it on the right side of the window (pictured), then click the 'Connect A Printer' option to launch an automated wizard that will guide you through the setup process. Note that you will be briefly disconnected from your internet while you configure your printer.

If you are unable to connect to your MoonRay, disable your firewall or add an exception then try again.

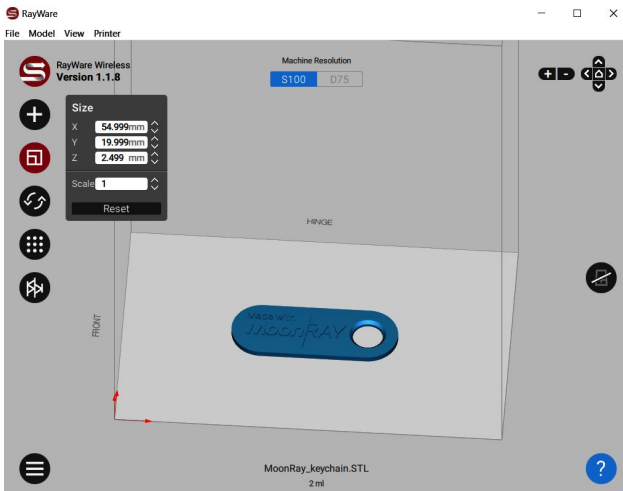


Add your model

Download the MoonRay Keychain .STL file from our website at

http://www.sprinray.us/rayware/MoonRay_keychain.STL

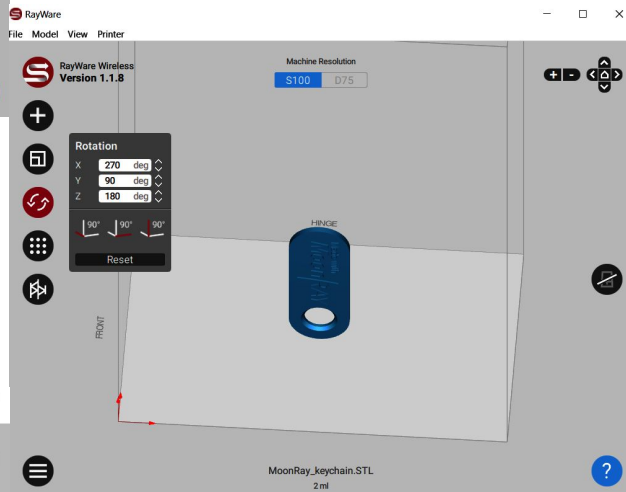
Click the + button on the top left side to add your model. You can also go to File > Open or drag and drop files onto the build platform. The white area represents the bottom of the platform. Models will print upside down; the surface that is flush with the white area will be attached to the platform after printing



On the left side of the window, you'll see several options underneath the + button.

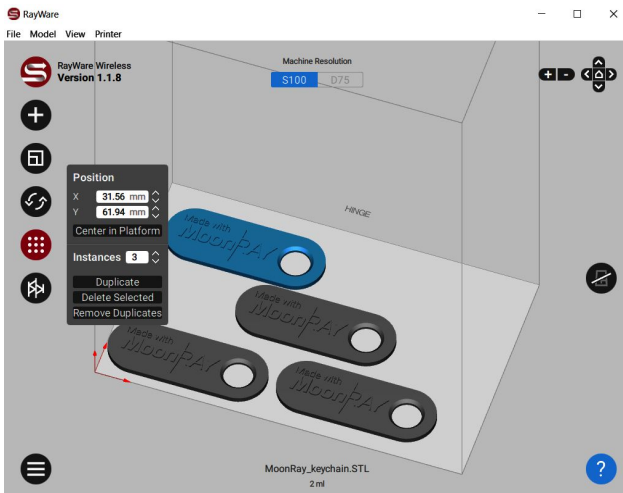
Size and Scale:

You can change the size of your model or scale your model up or down within RayWare.



Rotation and Base:

This option allows you to rotate your model on the platform, or change which side of your part is its base when printing.



Positioning/Instances/Duplication:

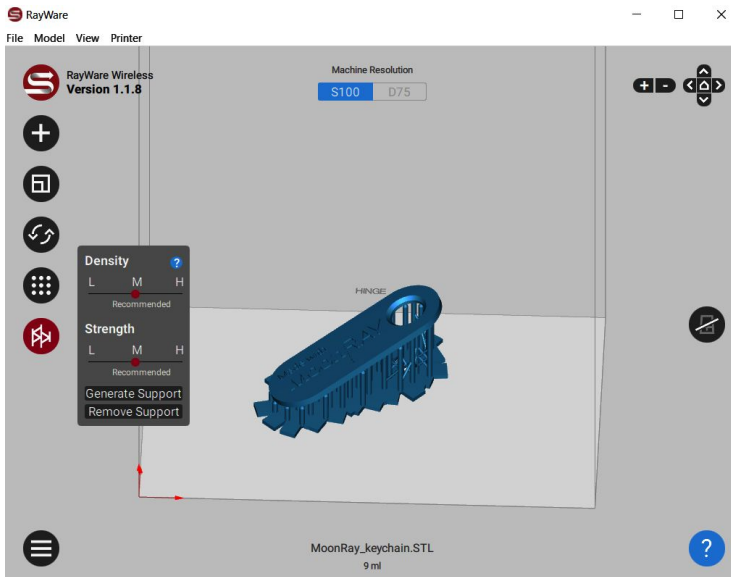
You can always move items by clicking and moving them, or center them with the button on this tab.

If you want to print multiple copies of the same model at once, you can use this option to select how many copies you would like.

Automatic support generation

Adding a proper support structure is an essential part of preventing failed prints. Minimize supports by positioning your object to have as few overhanging surfaces as possible.

You don't need supports to print this keychain when you have the flat side down.



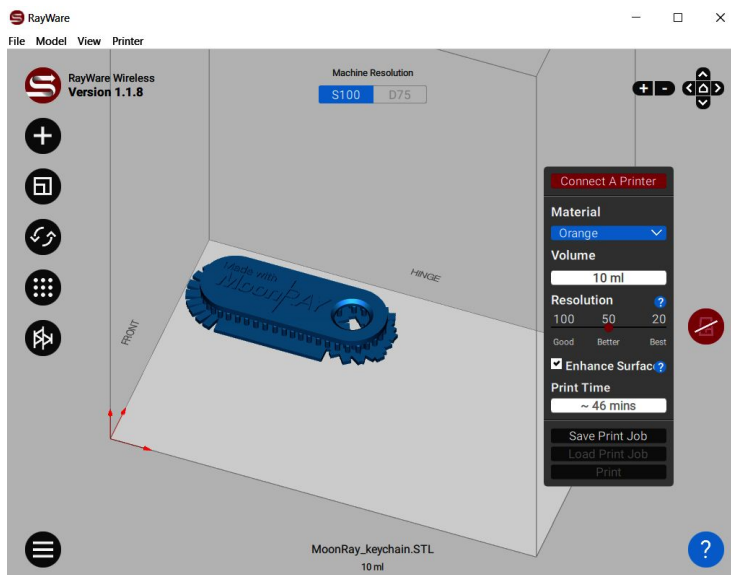
Try adding and removing supports with your piece at various angles to see where they generate.

Strength/Thickness: The diameter of each support, from low (thinnest) to high (thickest).

Density: Adjusts the number of supports per square millimeter.

Print your model

When you're ready to print your model(s), click the MoonRay button on the middle of the right side of the screen. You have a few options to select before printing.



Printer: If you have multiple MoonRay 3D printers connected, you can select the machine for the specific print job here.

Material: Select the type of resin you will be using to print your model. It is very important you make the correct selection.

Resolution: You have three options for layer thickness, each in microns. As layer thickness increases, print time and detail level decrease. For most models, we recommend printing using the "50" or "100" settings.

Finishing/Post Processing

Once your part has finished printing, follow these steps to complete the finishing process. The below instructions are for our standard resins, look online for details on finishing surgical guide & castable resins.

1. Remove the build platform. **Always remove the build platform before removing the resin tank to avoid any excess resin dripping inside your MoonRay.** Place the cover on MoonRay to minimize light exposure to the tank.



2. Place your build platform in the finishing kit and carefully use the finishing tool to remove your part from the platform. Expect your parts to be very difficult to remove for your first dozen prints or so. The removal process will become easier over time.

3. Clean the excess wet resin from your part by submerging it in fresh 91% or 99% isopropyl alcohol. Stir to ensure the alcohol

reaches any small gaps. You can also use an ultrasonic cleaner for best results.

4. Once your part is clean of resin, dry it off thoroughly. We recommend you use compressed air.

5. Remove supports. You don't need any special tools to remove the support structure, but you can use a precision knife or flush cutter to make sure all supports are cleanly removed. Any remaining marks can be easily filed off.

6. If you'd like your part to reach optimal hardness, you can set it in direct sunlight for 30 minutes or use a UV chamber for additional post-curing. This step is optional, but produces the best results.



Congrats on finishing your first print!

Look online for our full user manual, and never hesitate to email us any additional questions.