NovaMake
Software User Guide

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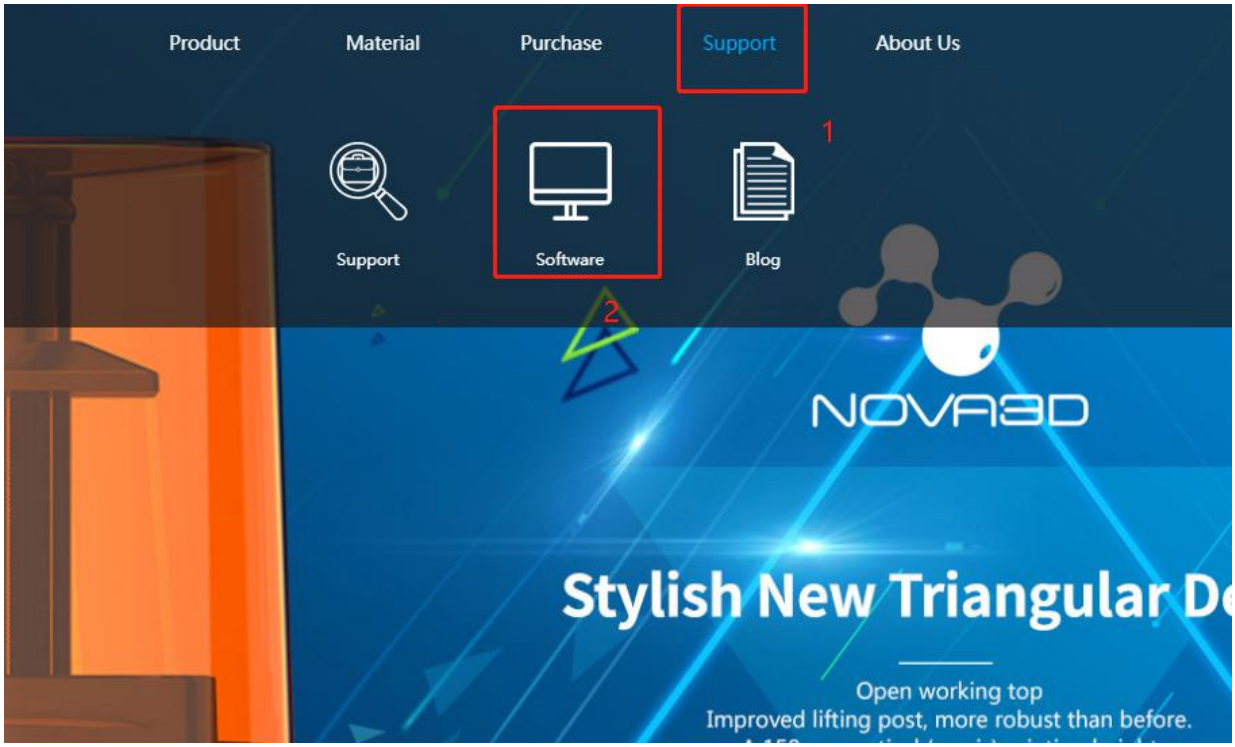
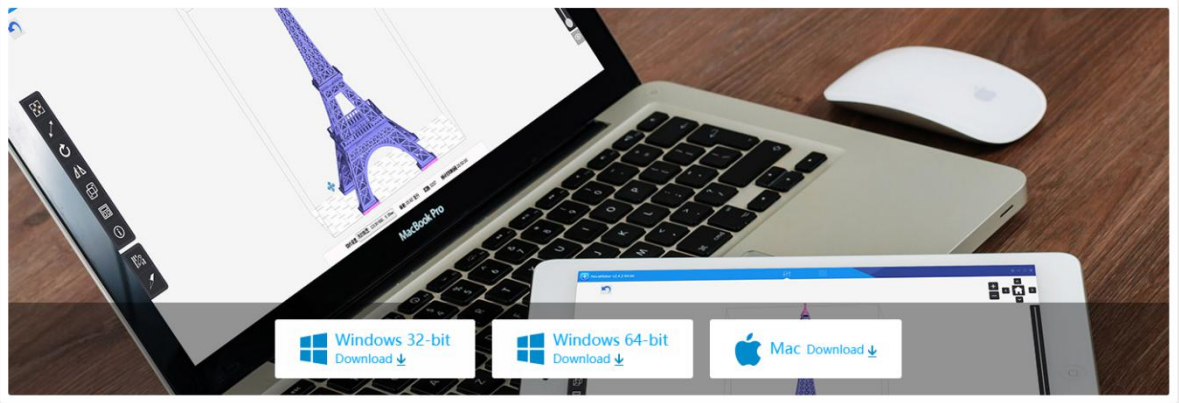
1. Introduction

NovaMake is an intelligent software that integrates model loading, model editing and 3D printer operations. It's applicable to all 3D printing devices of Nova3D to complete the functions of editing, slicing, uploading and printing of the model.

2. NovaMake Installation

Download and install NovaMake software on Nova3D website at: http://www.nova3dprinter.com, enter the "Software" page of "Support" as shown in the figure, download the version installation package with corresponding digits of the computer, and then install NovaMake.





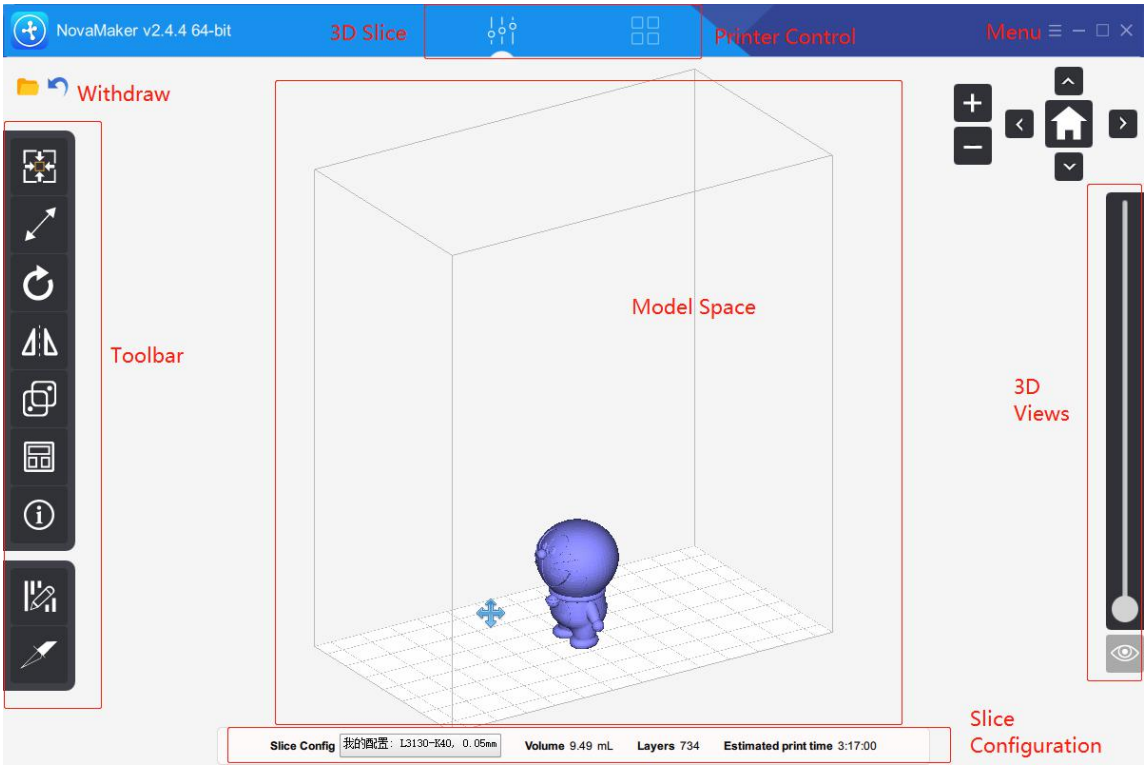
NovaMaker is the 3D slicing software independently developed by nova, which combines power with easy operation. It can not only complete 3D model slicing well, but also automatically scan LAN printers and remotely control them.

Note

3. User Interface

The software has 3 major functional sections: 3D Slice, Printer Control and 3D Views Control.

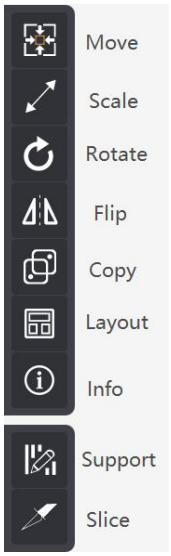
The 3D slice function can move, scale, copy, place and slice 3D model files. The printer control function is to manage the printing devices, modify the connected device parameters, upload the slice file, etc. The views control function can check the view of each direction of the model and the internal view of the model cut surface.



3.1. 3D Slice

The main function of 3D slice is concentrated on the left side of the software, display of the model can be adjusted by mouse:

Drag the left mouse button: rotate the view
Drag the right mouse button: move the view
Rolling mouse wheel: zoom the view
After selecting the model with the left button, the toolbar on the left side of the software will be brightened. Function of each icon is as follows:



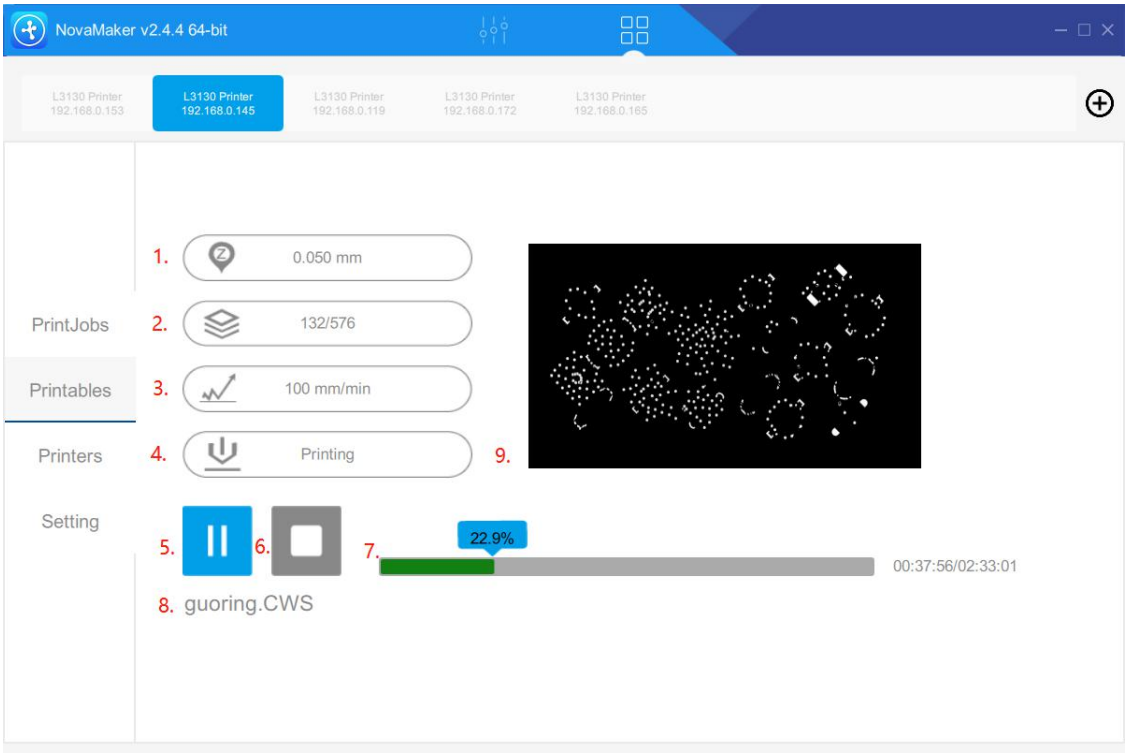
Move: Place the model at a reasonable position on the platform
Scale: Scale up or down the model volume
Rotate: Rotate the model in X, Y, Z directions
Flip: Flip the model according to the X, Y, Z axis
Copy: Copy the selected model
Layout: Automatically place the model at a reasonable platform position
Info: View the size and volume of the model
Support: Add support to the model
Slice: Slice the model file and upload it for printing

3.2. Printer Control

Printer Control includes: PrintJobs, Printables, Printers, Setting.

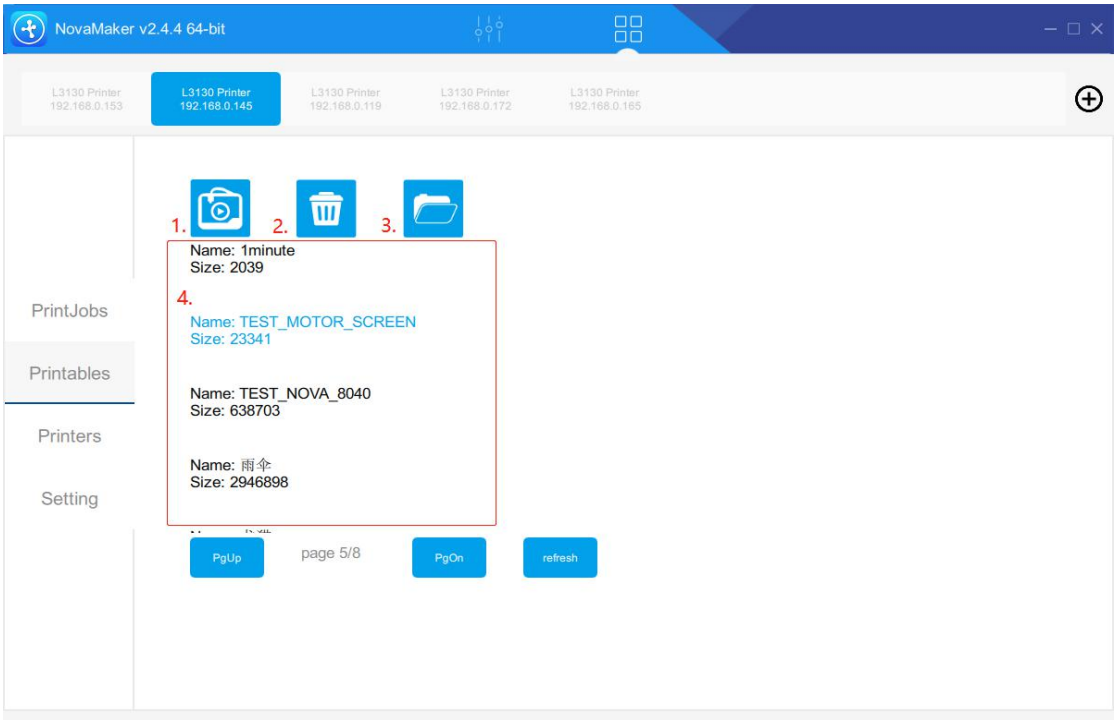
3.2.1. PrintJobs

1. Layer thickness (default: 0.05mm)
2. Slice status (current completed layers/total layers)
3. Motor speed (mm/min)
4. Printing status (printing)
5. Pause (pause printing task)
6. Stop (stop current printing task)
7. Progress bar (displays the percentage of printing progress)
8. Current printing file name (print file name)
9. Current printing status
10. Currently printed image (real-time display current slice interface)

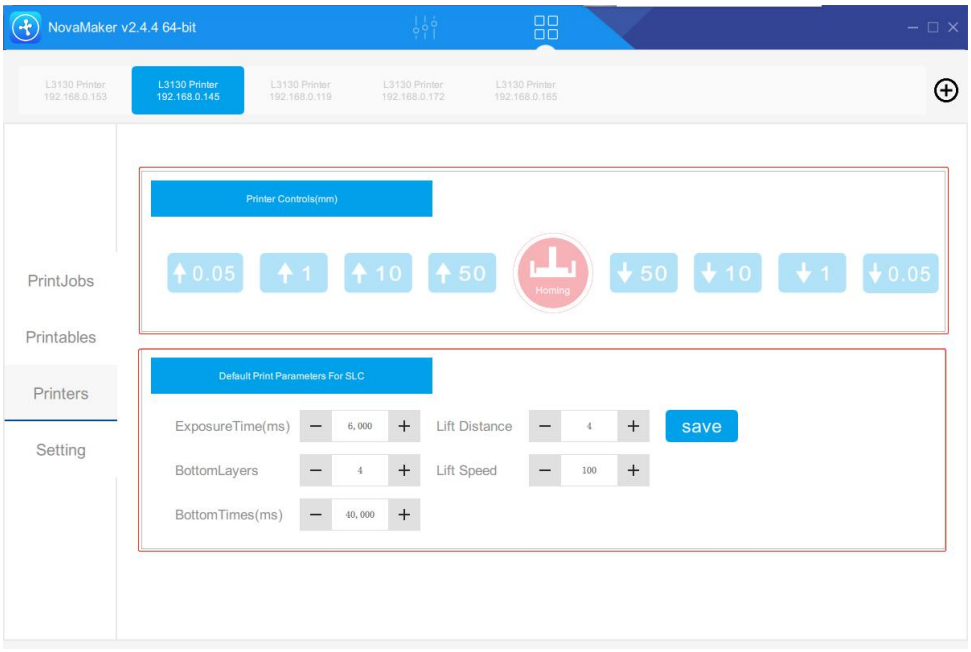


3.2.2. Printables

1. Print: to print current selected .cws file
2. Delete: to delete the .cws file stored in the printer
3. Upload: to upload the file to print
4. List of files stored in the printer

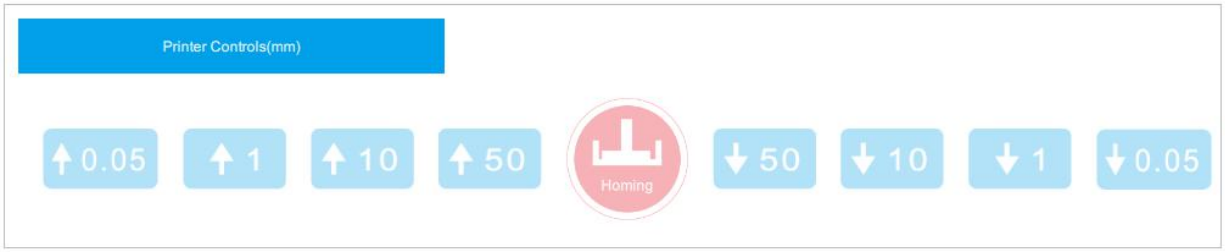


3.2.3. Printers



(1) **Printer Control:** controls the lift and decrease as well as reset of the platform.

The platform can be moved at a distance of 0.05, 1, 10, 50mm, the user can adjust the position of the platform according to the actual situation.



（2）**Default Print Parameters for SLC:** When printing with a .cws file, the parameters are generally defaulted and do not need to be changed. If you need to adjust the parameters, please contact Nova3D after-sales engineers for technical support.

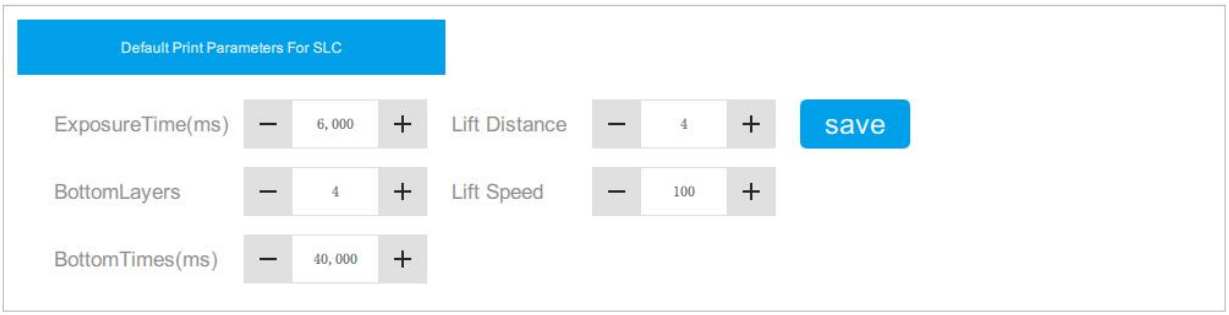
Exposure Time (ms): set the exposure time of each layer

Bottom Layers: set the number of bottom layers

Bottom Time (ms): set the exposure time of bottom layers

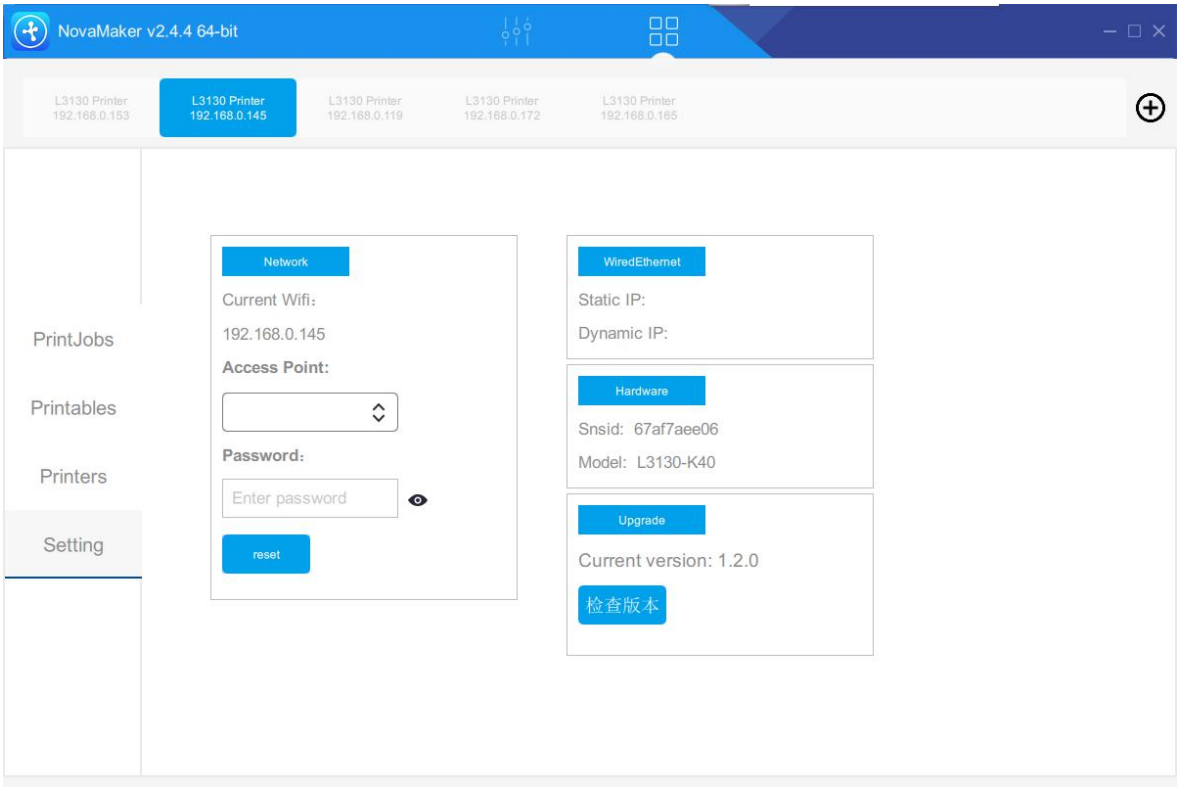
Lift Distance (cm): control the lift distance of the platform after a layer is printed

Lift Speed (mm/min): control the lift speed of the platform



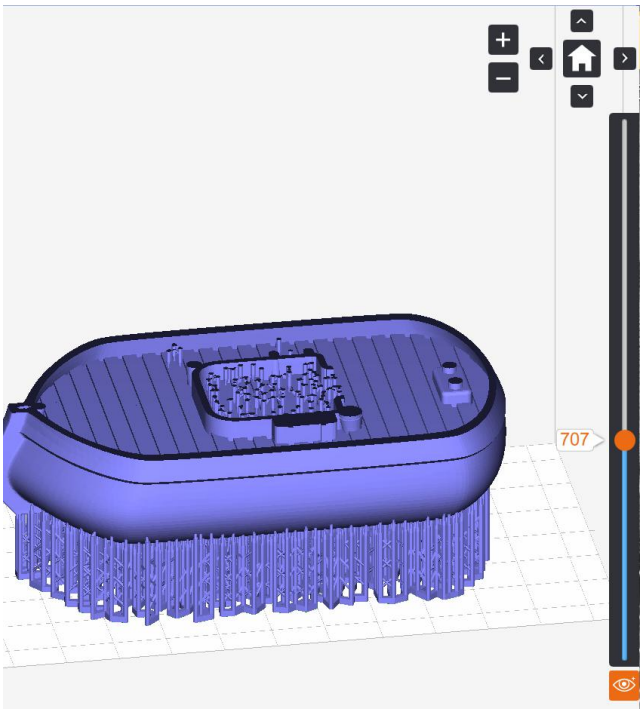
3.2.4. Setting

Users can read printer information including: WiFi network configuration, wired ethernet IP, hardware information, upgrades, etc.



3.3. Views Control

The views control menu at the upper right corner of the software corresponds to the switching and scaling of the view. Including: left view, right view, bottom view, top view, front view.



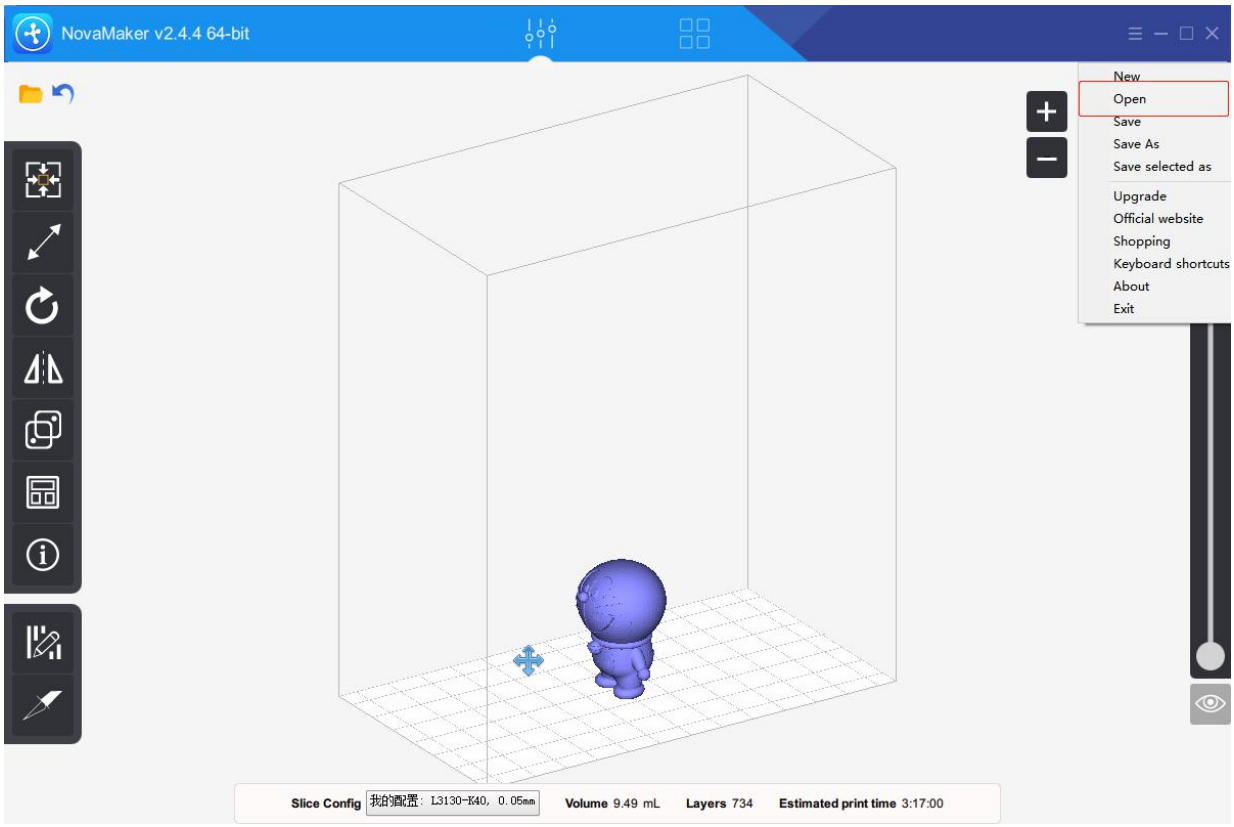
Cross Section View

Once the model is loaded, you can drag the scroll bar on the right to see the cross section and internal details of the model at different Z-axis values.

4. Import Model File

Double-click the desktop 

icon to open the NovaMake software, click  on the upper right corner of the software and select “Open” to import the 3D model you want to print. You can also drag and drop the file directly into the software printing platform area.The supported file types are .stl, .obj, and .3mf. Multiple models can be loaded in one scene. Import 3D model file, and select the model with the left mouse button to zoom, move, add support, and transfer files. The commonly used jewelry design software exports models in .slc format that can be used directly for printing.



5. Adding Support

5.1. Auto Support&Manual Support

5.1.1. Auto Support

The software provides an intelligent support algorithm. When the model structure is complicated, the auto support can be applied, the auto-generated support can meet most printing needs. To ensure the success of printing, you can also increase the support density for the lowest point part of the model.

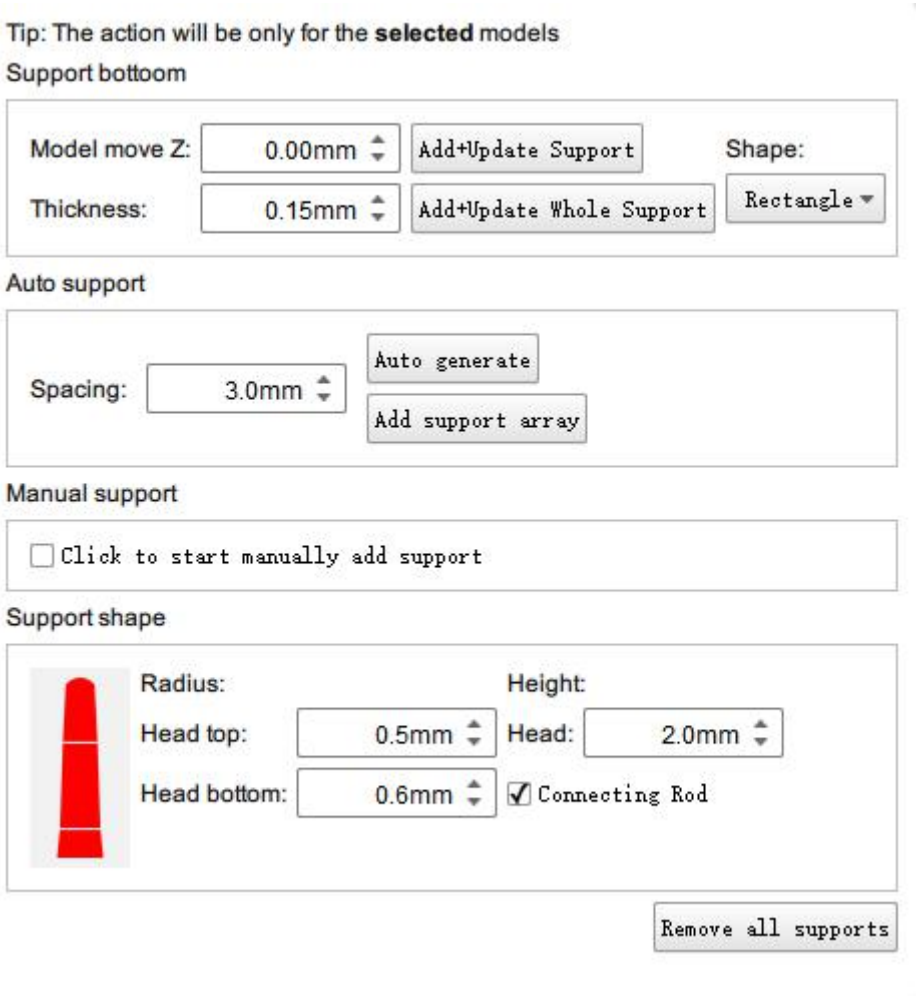
5.1.2. Manual Support

When the model structure is relatively simple, you can choose manual support, and add support at the lowest point part of the model.

5.2. Other Support Configuration

：Add a base plate to the model and set the thickness of the base plate (reference range 0.2-0.6mm).

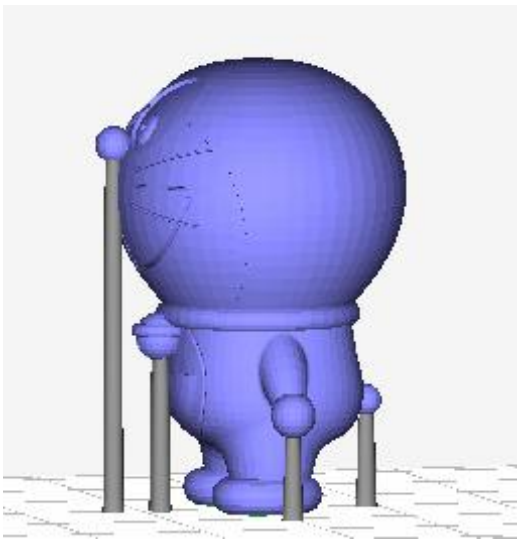
Remove all supports ： Here you can delete all the generated supports (select a support and press the DEL key to delete the specific support)



Support shape： Set the support radius and height, which can be adjusted according to the size of the object, suggested value：

1. Head top: 0.5-0.8mm
2. Head bottom: 0.7-1.5mm
3. Height: 1-2mm

Example：



Umbrella-shaped support： ① top multi-point: Hold down “shift” to select the point where you want to add support (2 points or more), and finally release shift when you select the drop point.② point-to point: Hold down “shift” to select one point where you want to add support, and finally release the shift when you select the drop point. Set the support top and bottom radius and support height.

Before the support is added, the adjustment of the position and angle of the model is very helpful for printing. Generally follow the principle of heavy head down, because it is printed from bottom to top layer by layer, which can provide better support against gravity.

Principles：

Theory one: Theoretically, any angle layout model can be successfully printed by adding support.

Theory two: Choose the optimal layout direction and angle.

Theory three: In some cases, there is no need to add support.

Theory four: Support to the lowest point part of the model is a must.

Theory five: If the upper part is continuous and the slope is large, support is only needed at the lowest point part, the upper part does not need to be supported.

Theory six: Overall stress of the model should be taken into consideration while determining how many support to add.

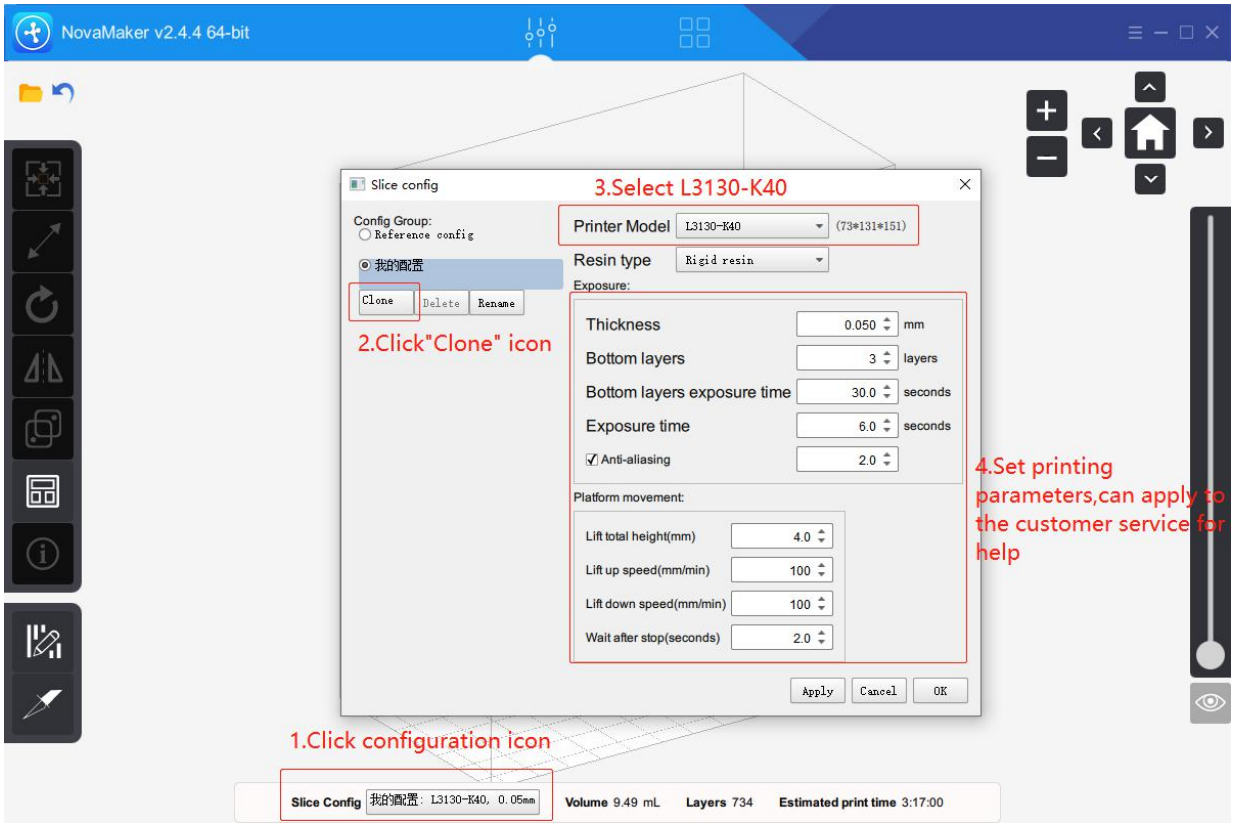
6. Slice Configuration

The .slc file does not need to be sliced and can be directly uploaded to print. The .stl file needs to be added with support, sliced, and then uploaded for printing. NovaMake is the only slicing software for Nova3D printers. If you use other software to add support, you need to export the model to a file in .stl format and then import it into NovaMake software for slicing.

6.1. Set Printing Parameters

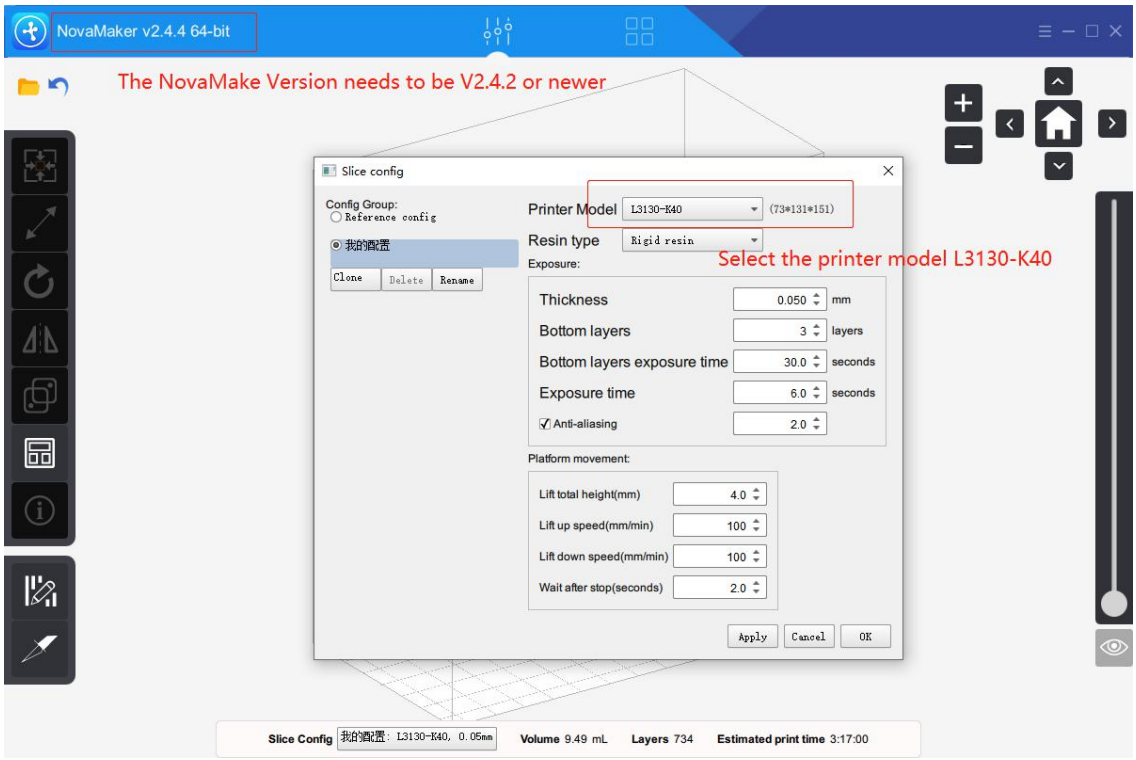
Parameter configuration is required before slicing. Even for the same model, different parameters need to be set if printed with different resin materials.

The default parameters are grayed out and cannot be changed. Click on “clone”. The cloned data can be modified corresponding to the material used. (Setting steps as shown below)



6.2. Parameter Setting Considerations

（1）When printing with Elfin, check the slicing software version at the upper left, the version needs to be above 2.4.2. If the version is below 2.4.2, please contact customer service to provide the latest software version.



（2）Select printer model “L3130-K40”, other models correspond to the other printers of Nova3D.

（3）The layer thickness is generally selected to be 0.05mm, taking into account accuracy, printing time, and hardware characteristics. 0.05mm is almost the most reasonable choice.

（4）The exposure time and bottom layers exposure time are related to the resin. The default value is the optimum value after testing, the user can adjust according to the actual effect. (Note: The maximum exposure time is 150 seconds).

Click the “Slice” icon, select a file directory, enter the name of the saved file, and click "Save" to wait for the end of the slice.

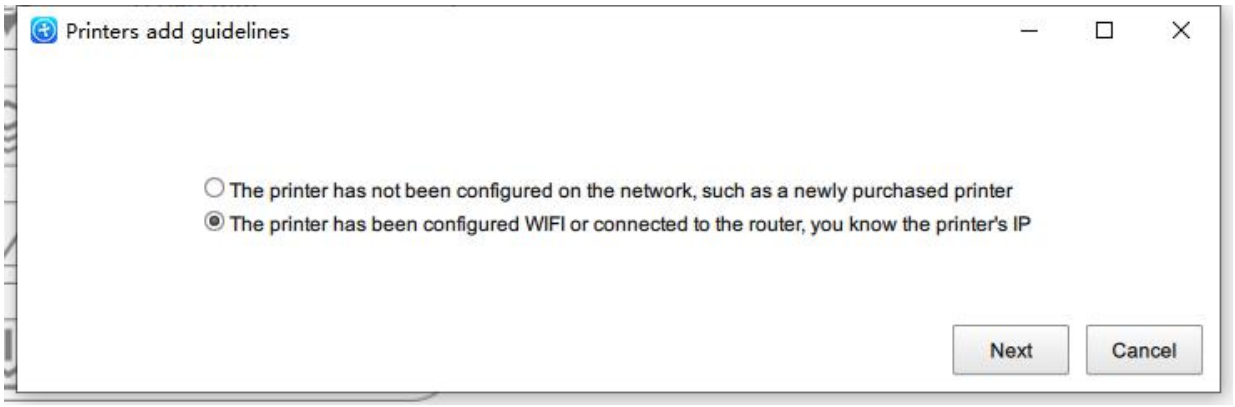
7. Connectivity

7.1. Ethernet Connection:

Click  on the right side of NovaMake title bar to enter the printer management interface, then click "+" on the upper right side to display a pop-up box for "Printers Add Guidelines", select the first item (the printer has not been configured on the network...) and then click “Next” until you are prompted to add the printer successfully.

7.2. WIFI Connection:

After connecting WiFi in the device "Network Settings", Click  on the right side of NovaMake title bar to enter the printer management interface, then click "+" on the upper right side to display a pop-up box for "Printers Add Guidelines", select the second item (the printer has been configured WIFI...) as showed below, next, enter the current IP of the device until WIFI connected.



8、Uploading Slice File

After connecting the device, Click “Printables” icon on the left side to import the .cws file just sliced, the uploaded file will appear in the file list, select the file, click Print to start the print job.