



MICROMAKE  
3D PRINTER

MANUAL

INSTRUCTION

L2





Read the manual carefully

The Instruction will help you to operate our L2 easily

### Notice

Please join our facebook community:

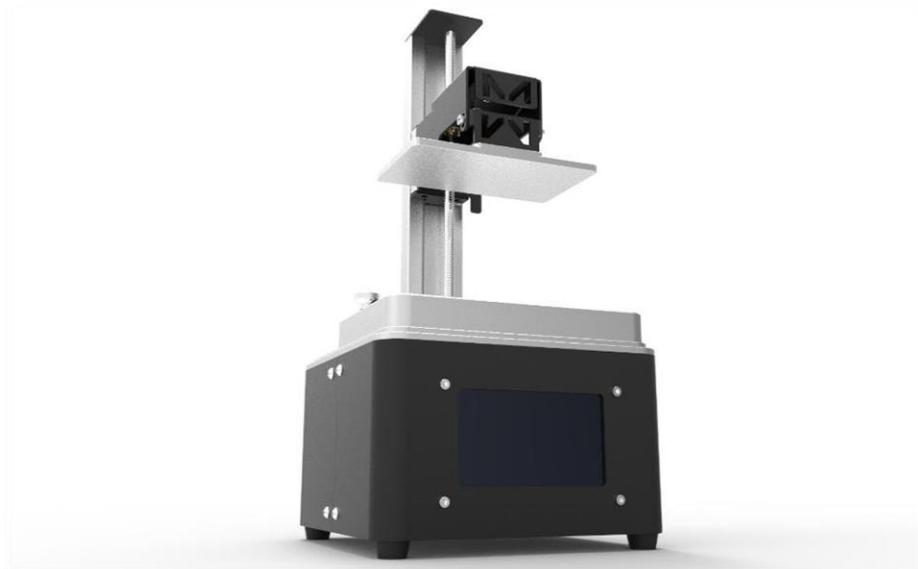
<https://www.facebook.com/Micromake3DPrinter>

If you have any problem or any idea, pls just feel free to contact us,

we will try our best to serve you.

After open the package,

pls remove the shading cover and resin box cover and tight the two screw in side of the resin box.



Security Instruction



**Notice:** 3D Printer include moving parts that can cause injury. Do not touch the drive parts during printing in case of your hand is pressed.



1. Do not leave the printer alone. Please wear gloves when you clean the resin or take models.
2. Do not expose the printer under the sun or in the rain.
3. The suitable ambient temperature is 15° -30°, humidity range is 20%-50%.
4. Remember to cut off the power supply when its emergency.
5. We suggest you using Goggles when clean or polish the models.

### Security Information

- Install the power supply unit before connecting the power cord to the AC outlet.
- Before removing the printer power unit, turn off the printer and unplug the power cord.
- Worktops or planes are required on a stable surface to ensure that the machine can not fall and level.



- Don't operate in outdoor.
- When any resin or liquid is found inside of the machine, please clear it immediately.
- Store the printer in original package when not in use.
- Cut off the power supply before you store the printer.

### Power

- Connect the printer to an input electrical network of 110 or 240V AC, 50/60Hz, with an operating voltage of 12V.
- Check the circuit before printing.
- Turn off the printer immediately when the power has a sudden failure.
- Contact us if happen the following situation.
  - The power supply wire or adaptor was damaged.
  - The liquid flows to the machine.
  - The printer shows obvious damage.
  - The printer work strangely or poor contact.



## Advice

Wear gloves when you use resin.

Clean your skin immediately if it touch with resin. Go to hospital if you eat it.

Operate the machine in stable and level surface with enough space.

Set the machine far away from the light, and operate the machine as far as in the dark.

Daylight lamp can also curing the resin.

Clean the resin box after printing.

**Set the machine far away from children.**

# L2



You can prepare following toll

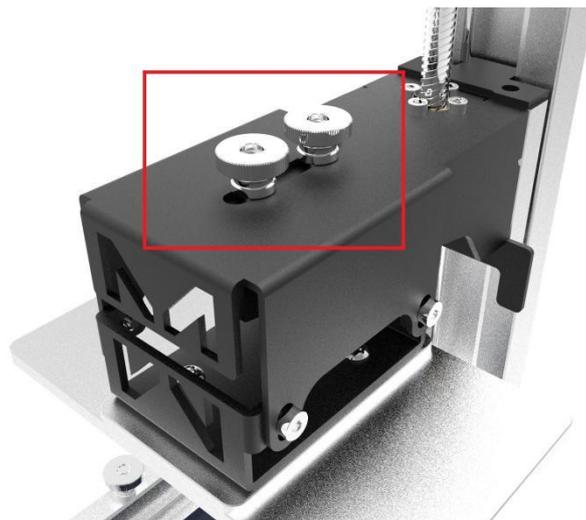
Router	Toilet Paper
Knife	Goggles
Plastic scraper	Gloves
Plastic Containers to wash models	Brush or sponge to clean models

### Demands for Computer

Dual-core processor or more, Windows system

Run on the mac, run 4 GB RAM or more in the sand table

Please confirm the two screw was tight before run the machine

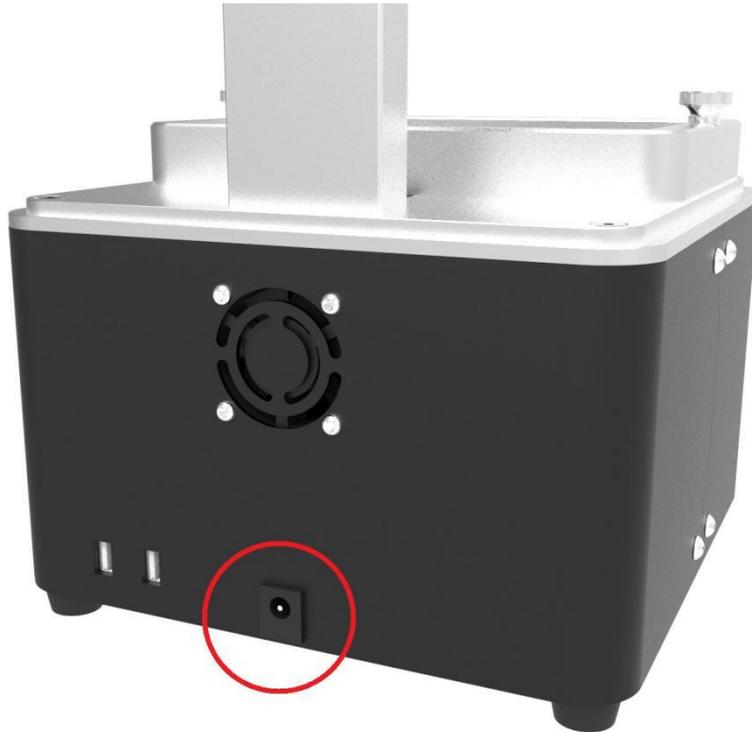


# L2



## Connect:

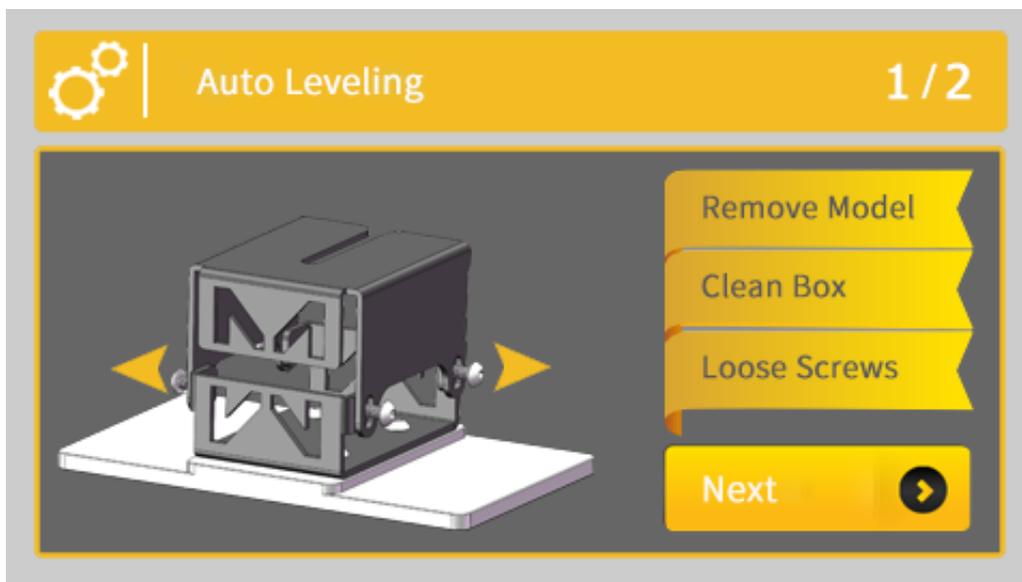
Connect the power supply to this position and open it.





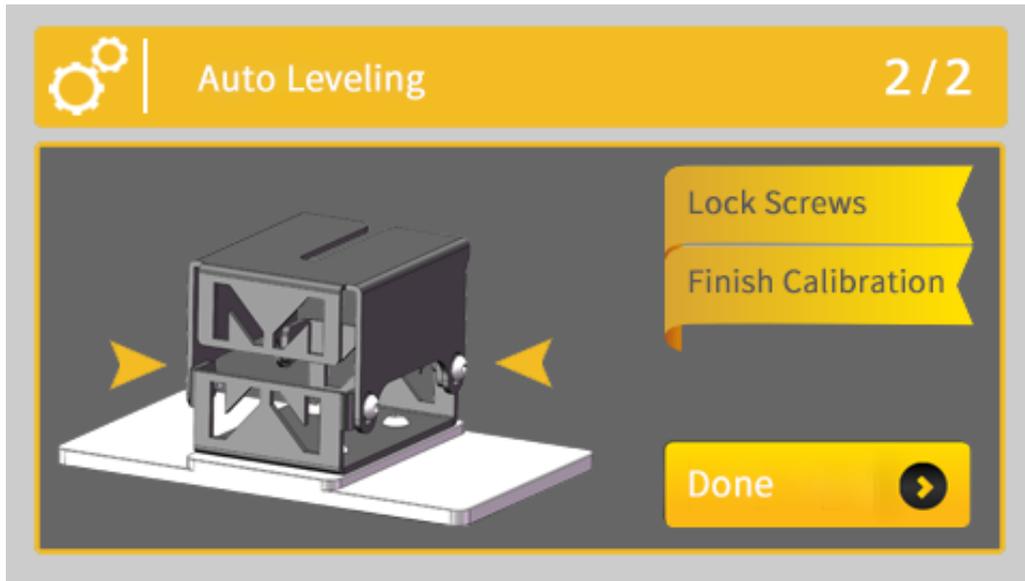
## Calibration Setting:

Go to Auto Calibration, use 2.5 tool to loose four screws on the printing platform to ensure the platform can move up and down, confirm the resin box and platform is clean, the click “Next” .





Press the platform to make it completely fit with resin box. Use 2.5 tool to tight the four screw, Click “Done” , the platform will rise 100mm.





## Main Interface Introduce:



1. Shows the model files, click it can enter into the folder directory.
2. Shows the position of Z axis.
3. Shows the slicing position.
4. Shows the expected complete time and current time.
5. Shows the current working condition.
6. Select and set the appropriate slice configuration for locally printing STL models.



Folder, SDA for U disk content and NET for printer local storage



Manual control page.



Setting, Wifi setting and printer system setting



Information, shows IP address of printer.



Turn off button. Wait until it inform you to turn off.



## WiFi Config:

Go to main interface, click Steeing-wificonf.txt-edit(p1), choose “SSID”

“password” > “Edit” (p2) > Input user name and password (wifi) , click “Select”

(p3) , then click "Cancel" enter the main page(p4), find and record the IP address for the

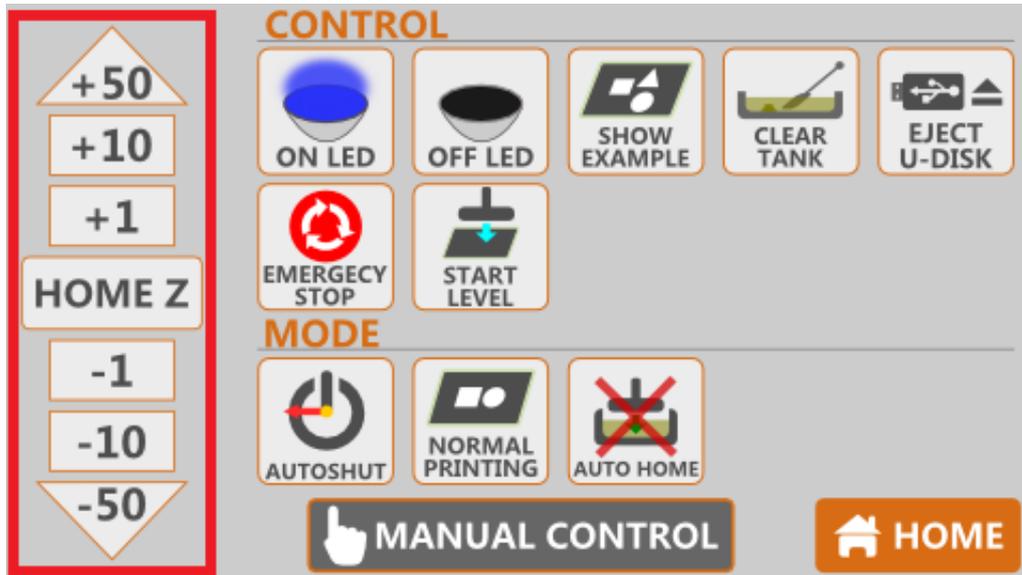
WIFI connection.

The screenshot shows the Micromake 3D printer's main interface. It is divided into two main sections. The top section contains printer status information (Z POS, SLICES, LED TIME, STATUS, SLICING FILE) and control buttons (START, STOP, PAUSE). The bottom section contains a file list and a settings menu. The process is annotated with four numbered steps:

- Step 1:** The printer status section is highlighted with a green '1'. A red box highlights the settings icon (wrench and screwdriver) in the bottom navigation bar.
- Step 2:** The file list section is highlighted with a green '2'. A red box highlights the 'EDIT' button next to 'wificonf.txt'. A blue arrow points to 'wificonf.txt'.
- Step 3:** The 'wificonf.txt' settings screen is highlighted with a green '3'. A red box highlights the 'EDIT' button. Blue arrows point to the 'Ssid=WiFi SSID' and 'Password=WiFi Password' fields.
- Step 4:** The settings menu is highlighted with a green '4'. A red box highlights the 'NETWORK' field, which contains '[ftp & ssh]@10.1.1.154'. The 'RETURN' button is also visible.

If there is no wifi, you can use u disk copy model to print.

## Manual Control Interface:



The red selected area is to control the platform, click “HOME Z”, the platform will move to printing position.

**ON LED:** Open backlight.

**OFF LED:** Close backlight.

**SHOW EXAMPLE:** Show size calibration legend.

**CLEAR TANK:** The backlight will light for 10 second, the display will show nothing, the bottom resin will curing for one layer for cleaning. Can use knife to clean the resin.

**EJECT U-DISK:** Pop-up U disk.

**EMERGENCY:** Stop the machine in emergency condition.

**START LEVEL:** Move the platform to printing position.



After click, the printer will close automatically.



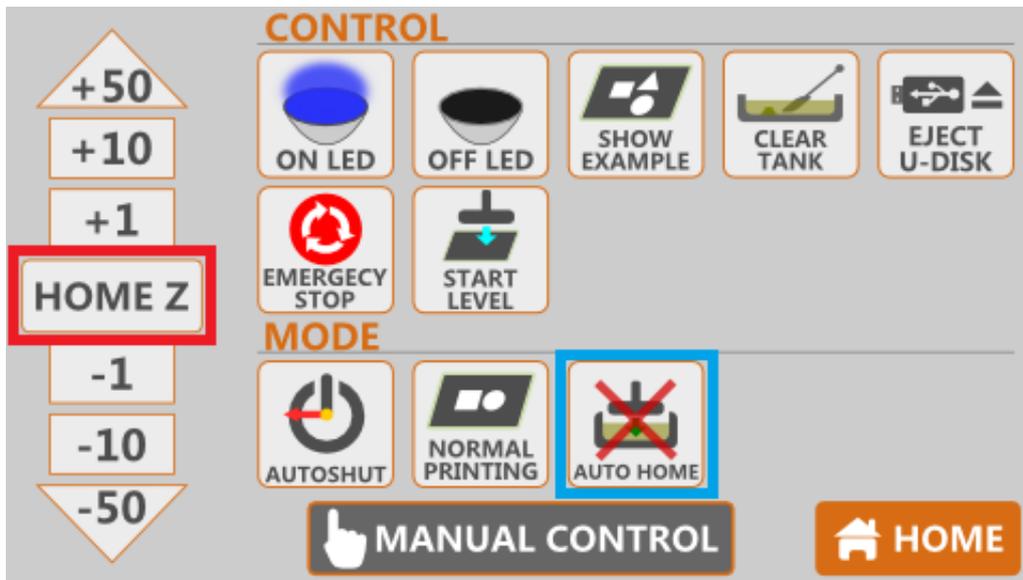
Change the optimize print to normal print, In optimized mode, a mosaic image will be filled in the print area, solidified in some small areas, supported as a full exposure, and can reduce shrinkage in large area prints



Auto reset mode, after click it, wherever the platform is, when you begin printing, the platform will move to printing position first, no need manual reset.



## Offline Printing Instruction

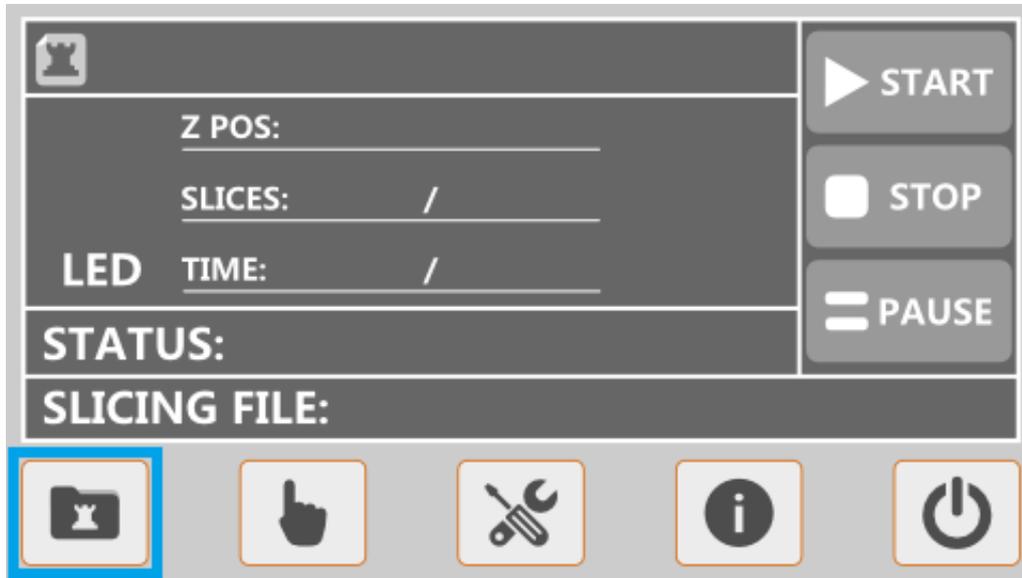


ove the platform close to display before printing.

Method 1, Click Auto Reset on Manual Control page, this button can make sure that the platform will move to printing position before printing.

Method 2. Click Back to Z Axis, the platform can fall to printing position manually.

Notice: No matter which way, please confirm the platform was flat and the resin box is clean before printing.

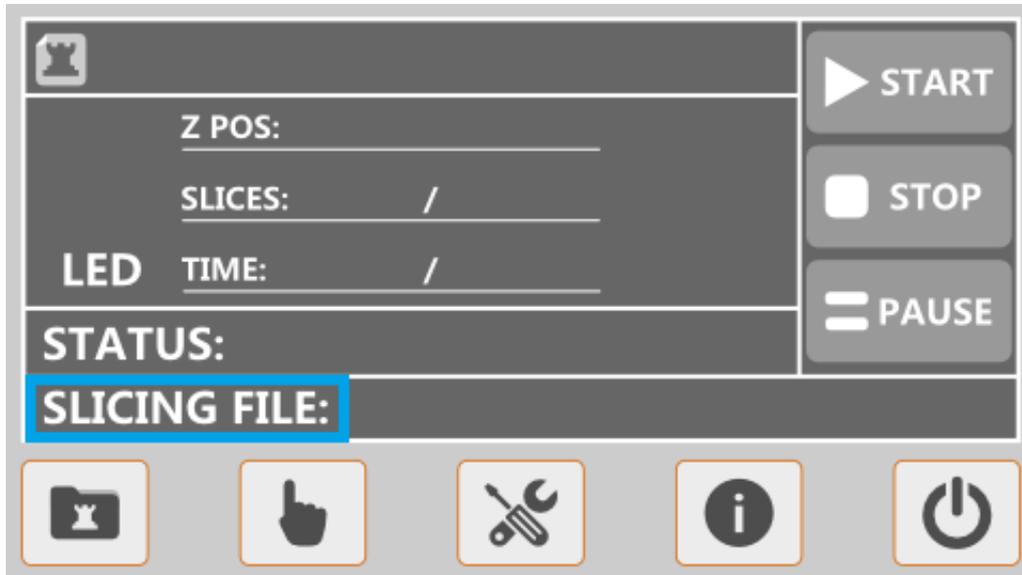


Enter folder choose the printing file.

**mms:** The file format is Micromake Slice format, which is the unique SVG output format of Micromake L2 control center. It can be uploaded to the local through WiFi or copied directly through U disk copy. The file contains layer thickness and exposure parameter information.

**stl:** Stl: Standard 3D print identification file, only 20M the following documents can be printed, too large file will lead to read the file too long or directly out, more than 20M Please use pc-side slice. The direct print stl will be printed using the local slice settings.

**cws:** For the photo-curing printer commonly used software Creationworkshop slices save the file format, the file contains layer thickness and exposure parameters and other information.



When choosing a stl file, printer will slicing, and the the slicing profile can be modified or choosed suitable setting in Slice Configure File.

The local slice configuration file is fully compatible with the control center slice profile format parameters, which can be uploaded to the local or directly through the LCD screen to modify the slice parameters after modification by the control center.

If using mms and cws files, you can skip this step, because the cws and djs files already contain information such as layer thickness and exposure parameters, so the local slice configuration will not take effect on both files.



Click “Start” button, printer begin printing.

In order to properly bind the platform, the first layer is generally set longer, usually the platform has no action within 2 minutes before the start of printing is normal. You can stop printing with the "Stop" button, and the print platform will rise by 100 mm.

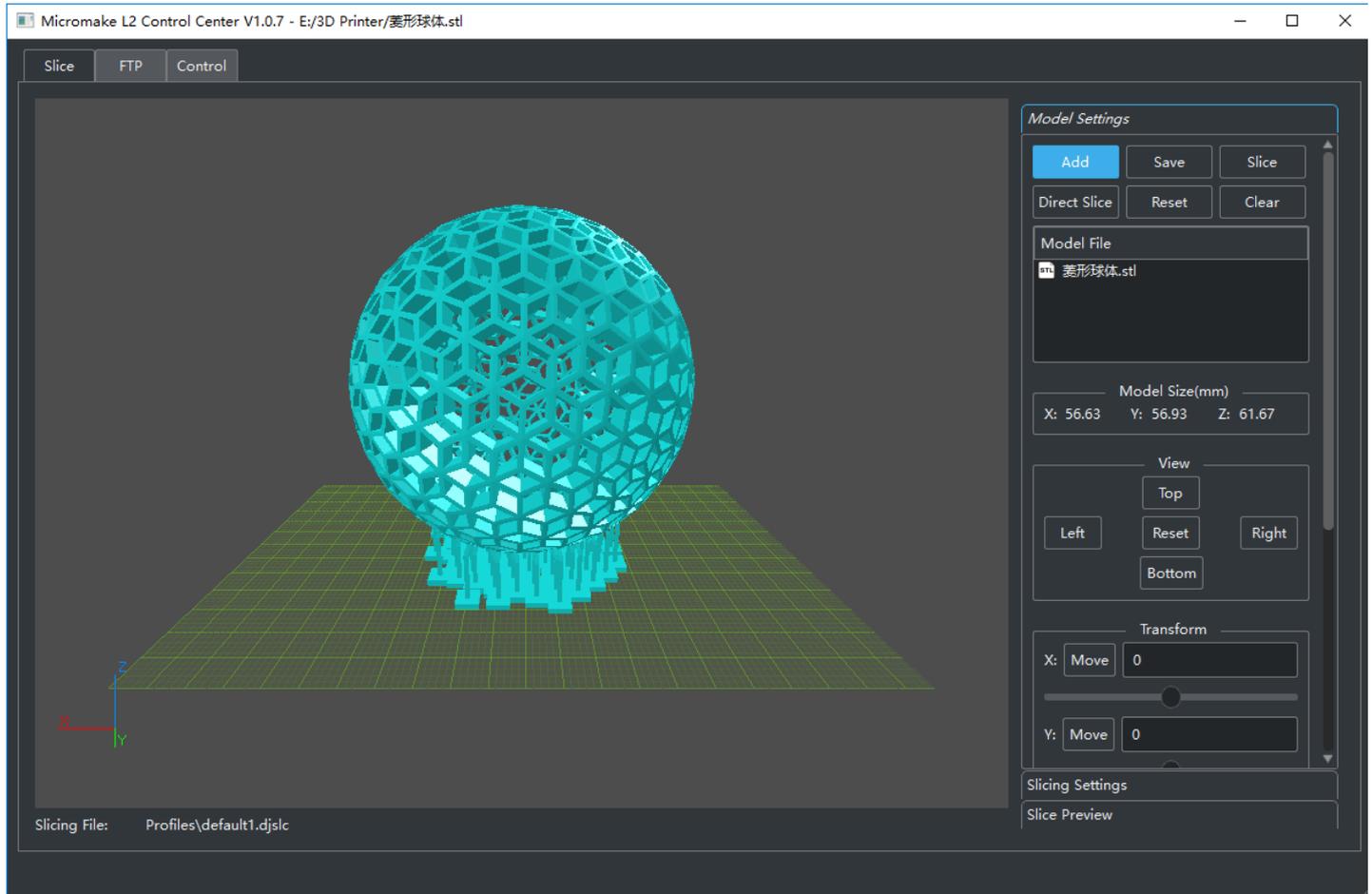
Print the first few layers, you can click the "pause" button to let the printing platform rise to observe the first layer is normal adhesion to the platform or not, if there is no problem, click the Continue button to continue printing, if not stick, you can stop printing, Increase the underlying exposure time or re-leveling to continue printing, effectively avoid the failure of printing and resin caused by the waste of time.

With the pause function, you can add a different color of the color paste in the process of printing, so as to obtain the color gradient color of the model, you can also by pausing the replacement of different colors of the resin box to print a multi-color model. (Mixed color multi-color printing, please use the original color paste, will not affect the single-layer curing speed, directly add solid paste may cause a single layer of curing time lead to print failure).

# L2



## Wifi printing operation:



Micromake L2 Control Center For PC



## Model Slicing:

- 1: click “Add” , choosing stl file.
- 2: Choose preset slice file in “Slice Setting” , such as LCD-K, or you can customize the print settings, save as a new slice file.
- 3: Click “Slice” , it will create a same name mms file, this file can send to printer or U disk for printing through FTP.

**Tips: Micromake L2 printer can be controlled through touch screen or Micromake L2 Control Center.**

"Save ":can save the file to stl file.

"Direct Slice":can skip the model preview and slice large files directly.

"Reset":reset the model

"Clear":clear the model

"Model Setting" Option can adjust the model

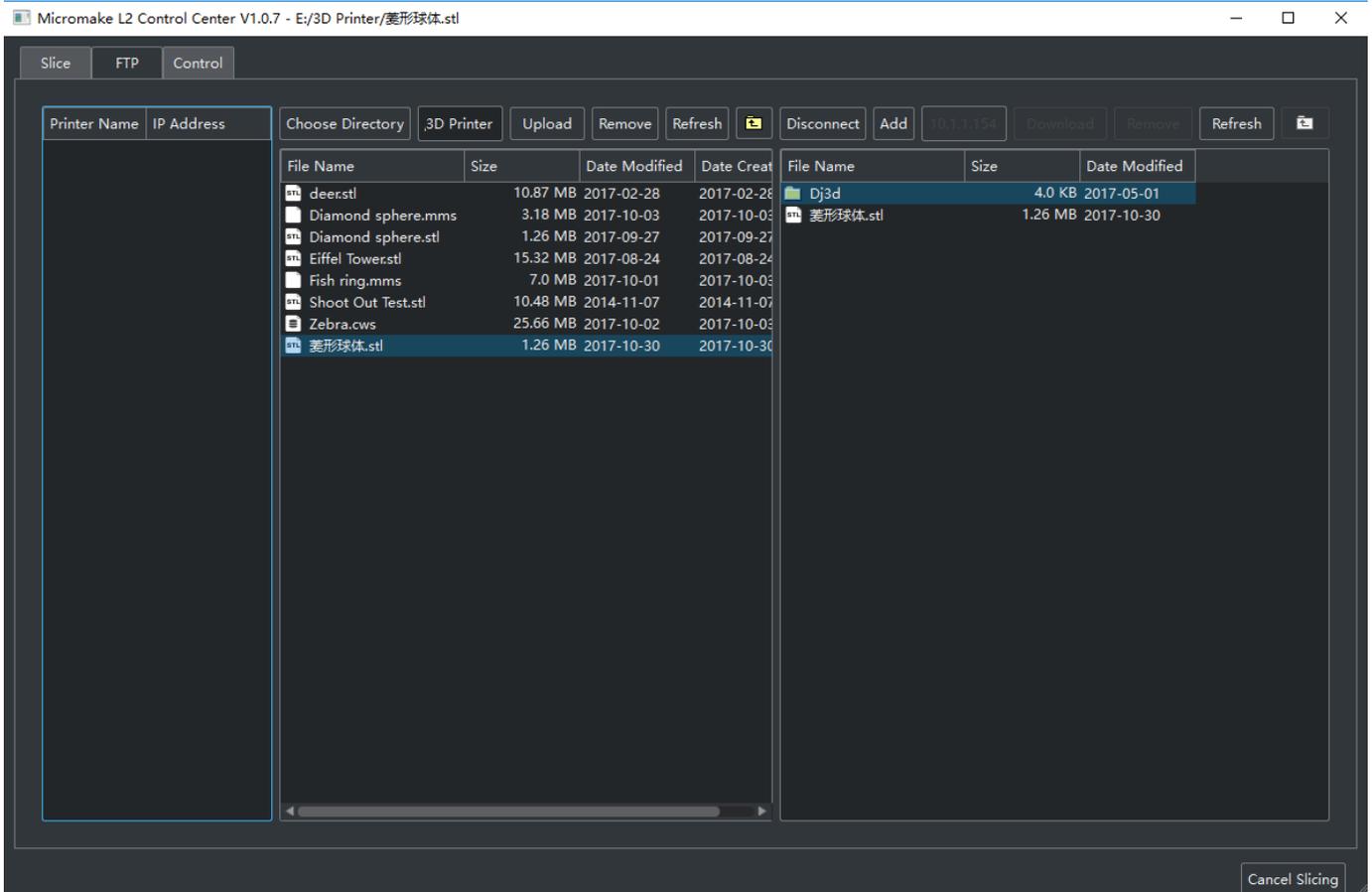
"Model Setting" Option can adjust the slicing parameter

"Model Setting" Option can open and preview the mms file

# L2



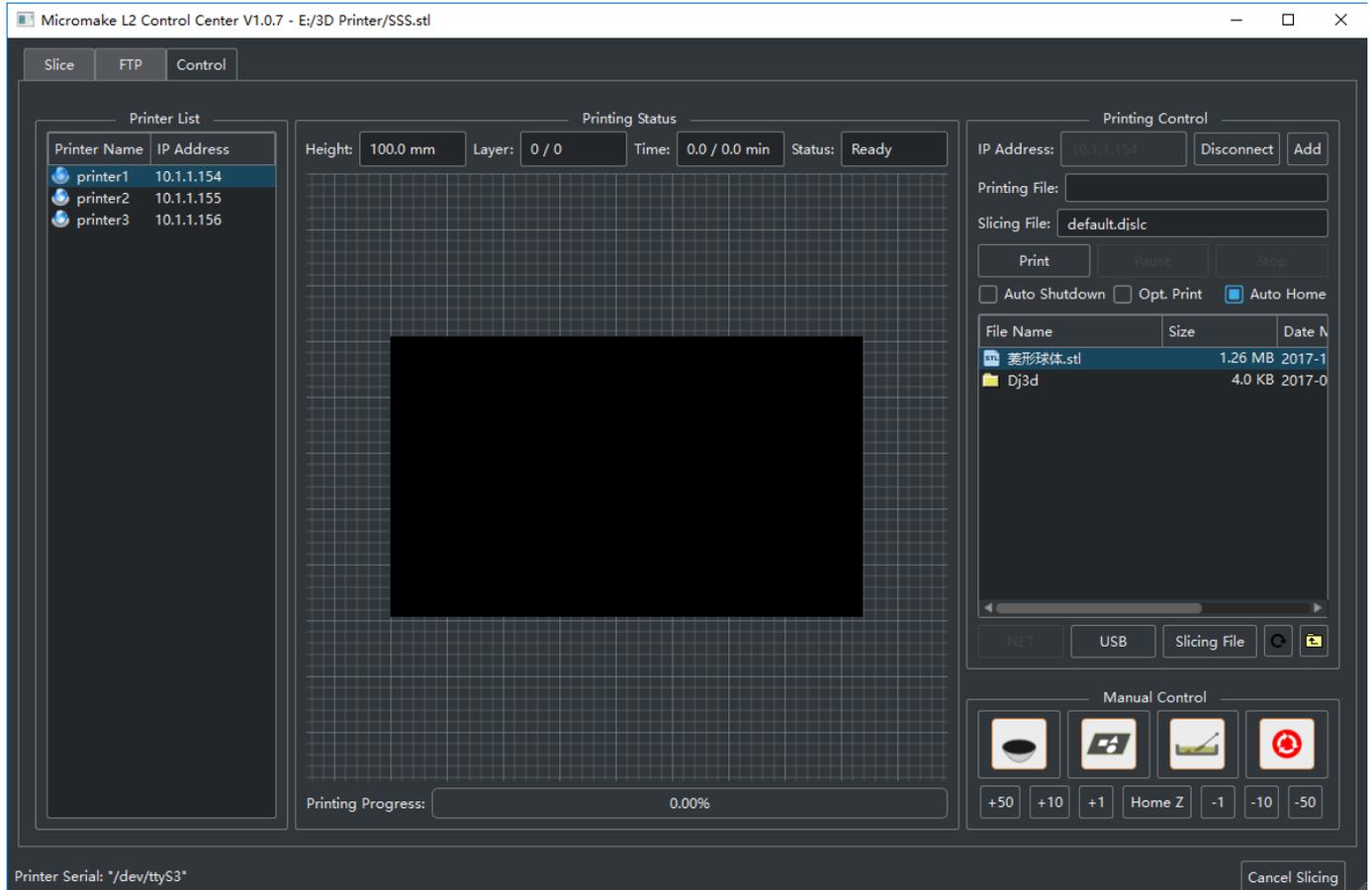
## Model Upload:



- 1: click Choose Directory, choosing mms file.
- 2: Input the IP address
- 3: Connect
- 4: Upload, can upload the file for printing directly.



## Model Printing:

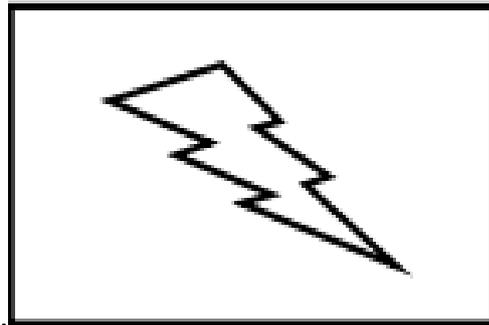


- 1: input IP address
- 2: Connect
- 3: List the file in the U disk and the local NET folder.
- 4: Choose model to printing



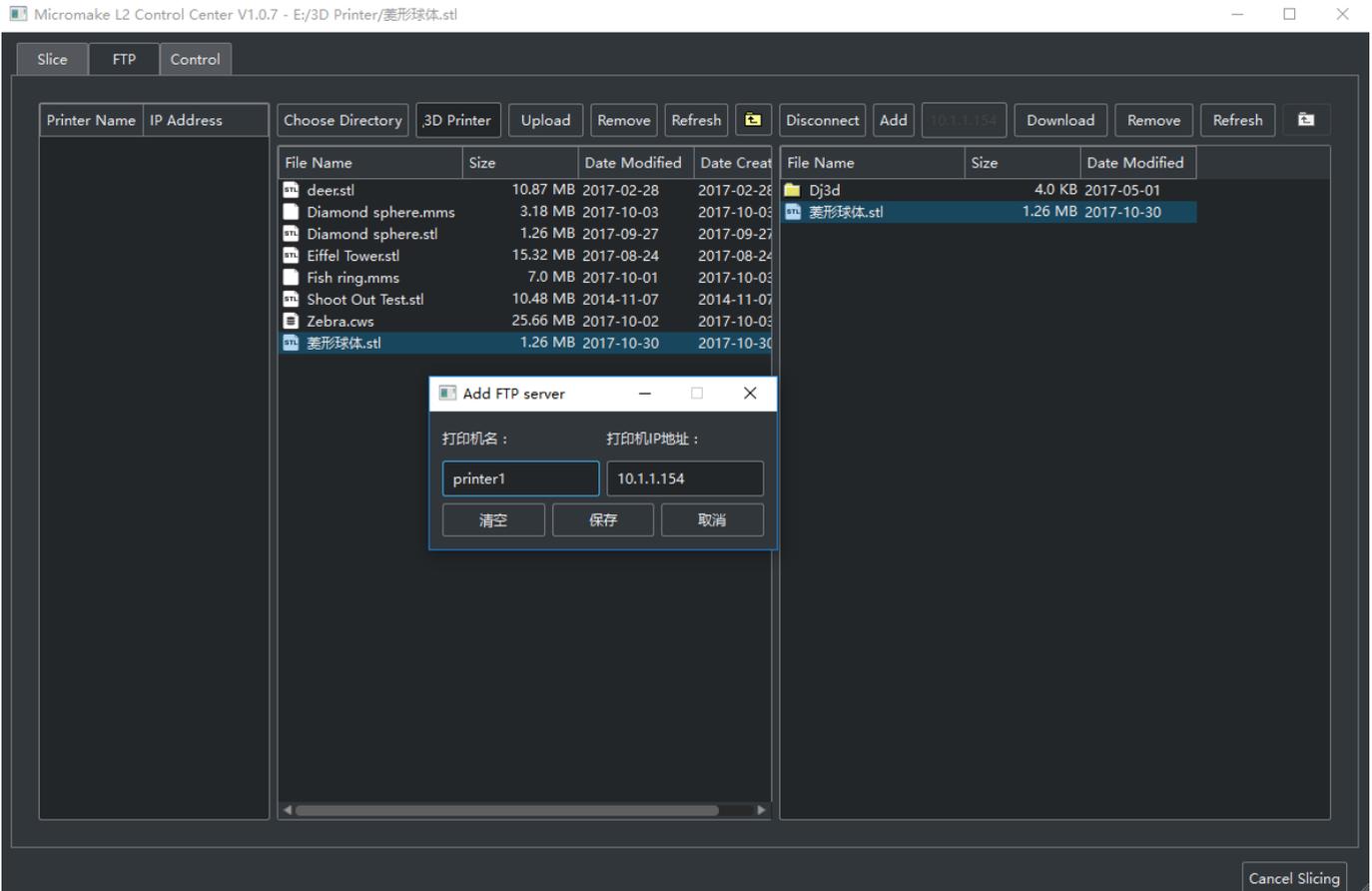
### Important Notice:

1. Choosing “Auto Home” ,no need to click:” Home Z” ,the platform will go down to printing position first and begin printing (highly recommend) .
2. If you didn’ t choose Auto Home, remember to click Home Z before printing.
3. After choosing Auto Home, please make sure that the platform and resin box is **clean** before printing.





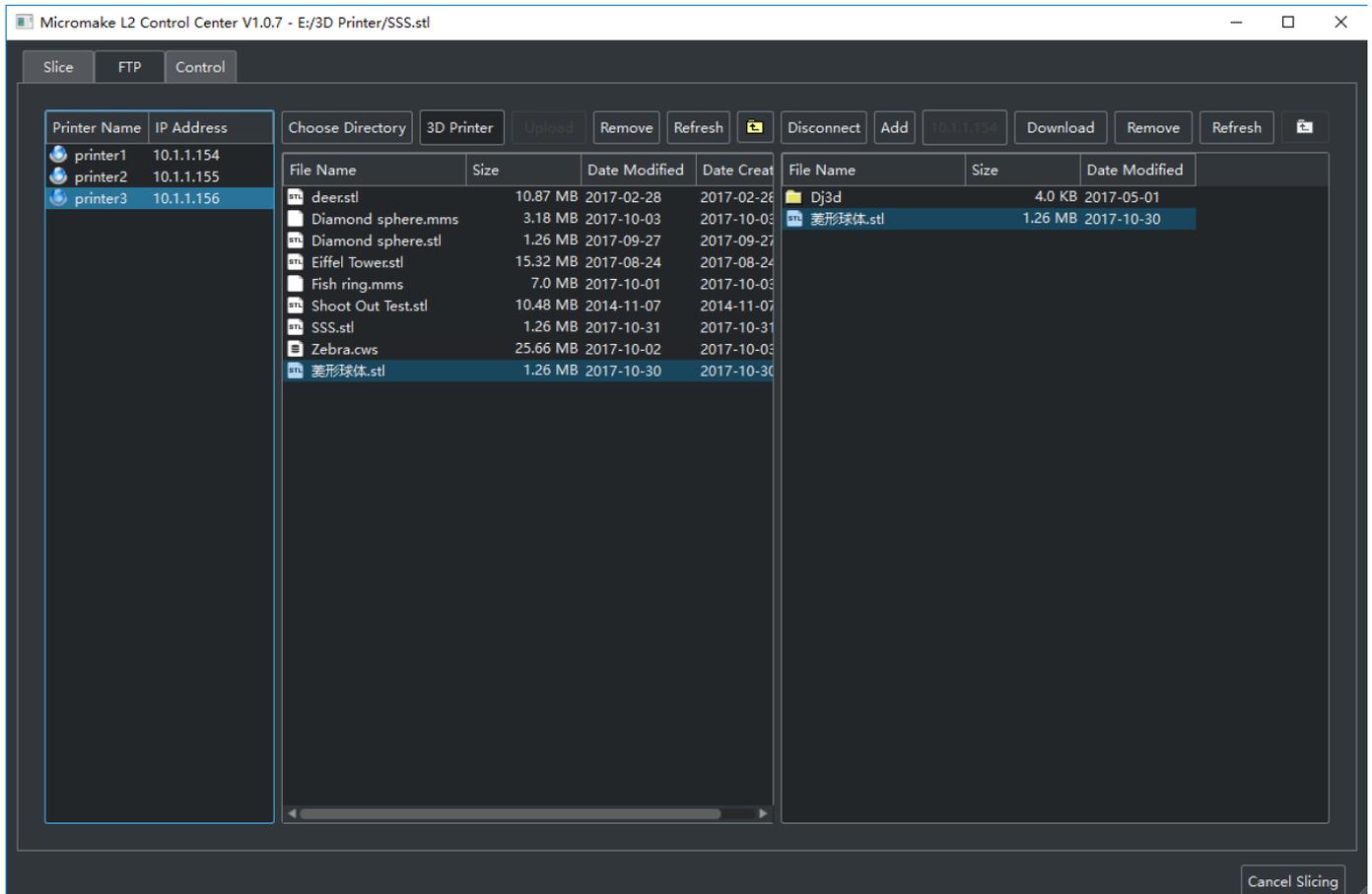
## Cluster Control:



- 1: Click "add button" on the FTP control page.
- 2: In the "add FTP server" dialog box, enter the name(s) of the added printer(s)
- 3: In "Printer IP Address:", enter the IP address of the printer(s) to be added.
- 4: Finally remember to click "save".



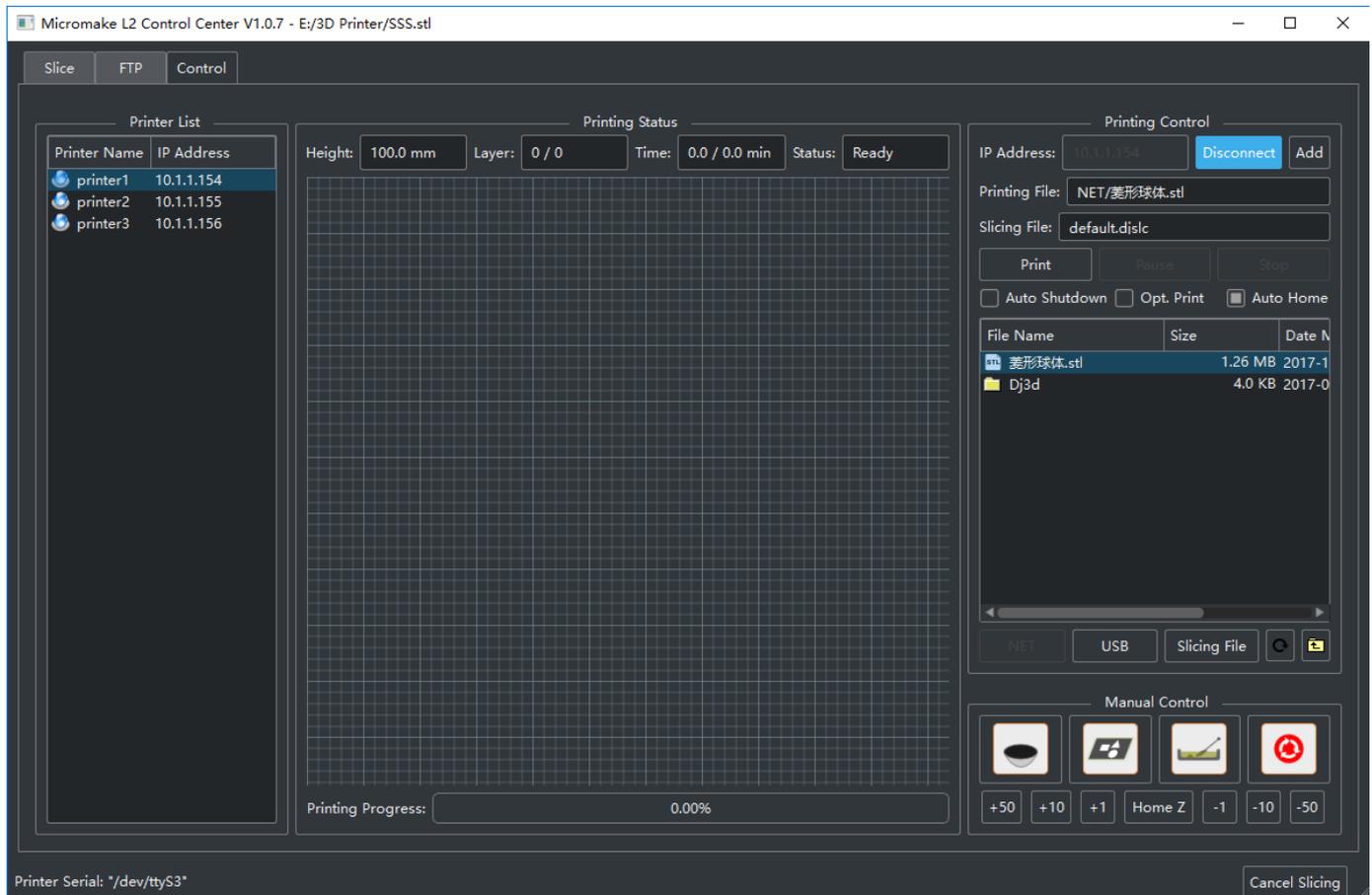
## Cluster Upload:



- 1: Select the printer you want to control, click "connect" to connect to the printer you want to control.
- 2: Then you can upload the model to the printer you want to control.



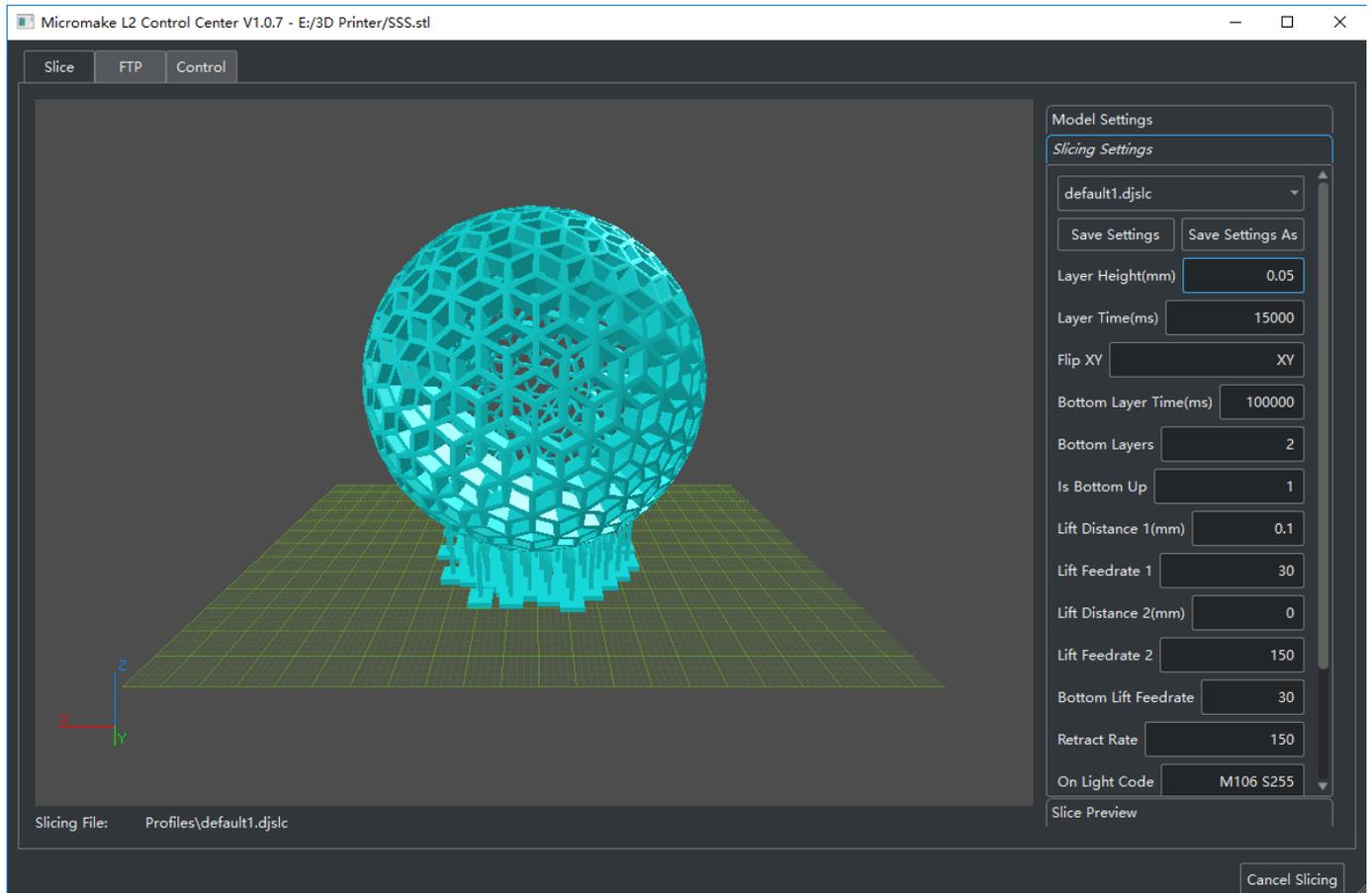
## Cluster Printing:



- 1: Select the printer you want to control, click "connect" to connect to the printer you want to control.
- 2: Then, you can start your model selection and print control for the printer you select.



## Detailed explanation of Slicing Settings:



Choose Slicing Setting in Slice file, you can enter Slice Setup Details menu.



"**Layer Height(mm)**" can set a height range:0.02-0.2mm, can set 0.05mm or lower, the lower thickness, the higher accuracy, and the longer printing time.meantime the exposure time can be reduced. Layer thickness is high, print quality will decline., the print speed will be prompted.

"**Layer time(ms)**" can set according to the real situation, default time is 10 second.Print smaller and simple structure model can reach up to 2 seconds. If the details of the print can not show, just increase in single exposure time.Model with holes is better to reduce the curing time. Model with pillar is better to increase the curing time.

"**Bottom Layer time(ms)**" default time is 30 seconds, .Print smaller and simple structure model can reach up to 5 seconds.if the model can't stick on the platform, just increase the bottom exposure time.

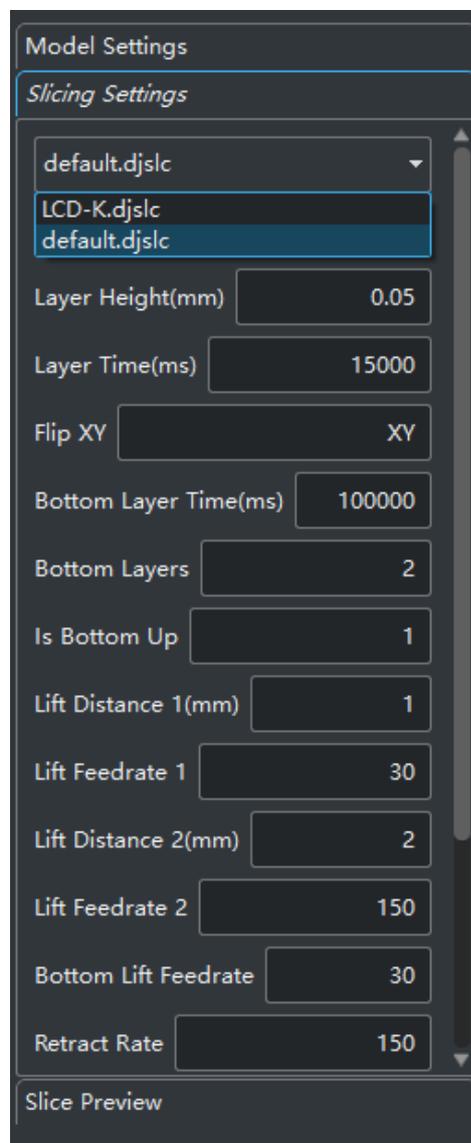
"**Lift Distance 1(mm)**" The first lift distance, according to the model size reference settings, if the area is too large but lifting height is low, the resin can not be returned to the middle of the model, resulting in the middle part of the model has bubble, defect or print failure. Raise the height of the Z-axis table. "**Uplift 1 feed rate**" for the first paragraph of the speed of lifting, generally no need to change. The result is a lift of 1 mm at 30 speeds.

"**Lift Distance (2mm)**" the second lift distance, begin after finish the first lift,the default setting is 150mm/m, means lift 2mm in 150 speed after the first lift.

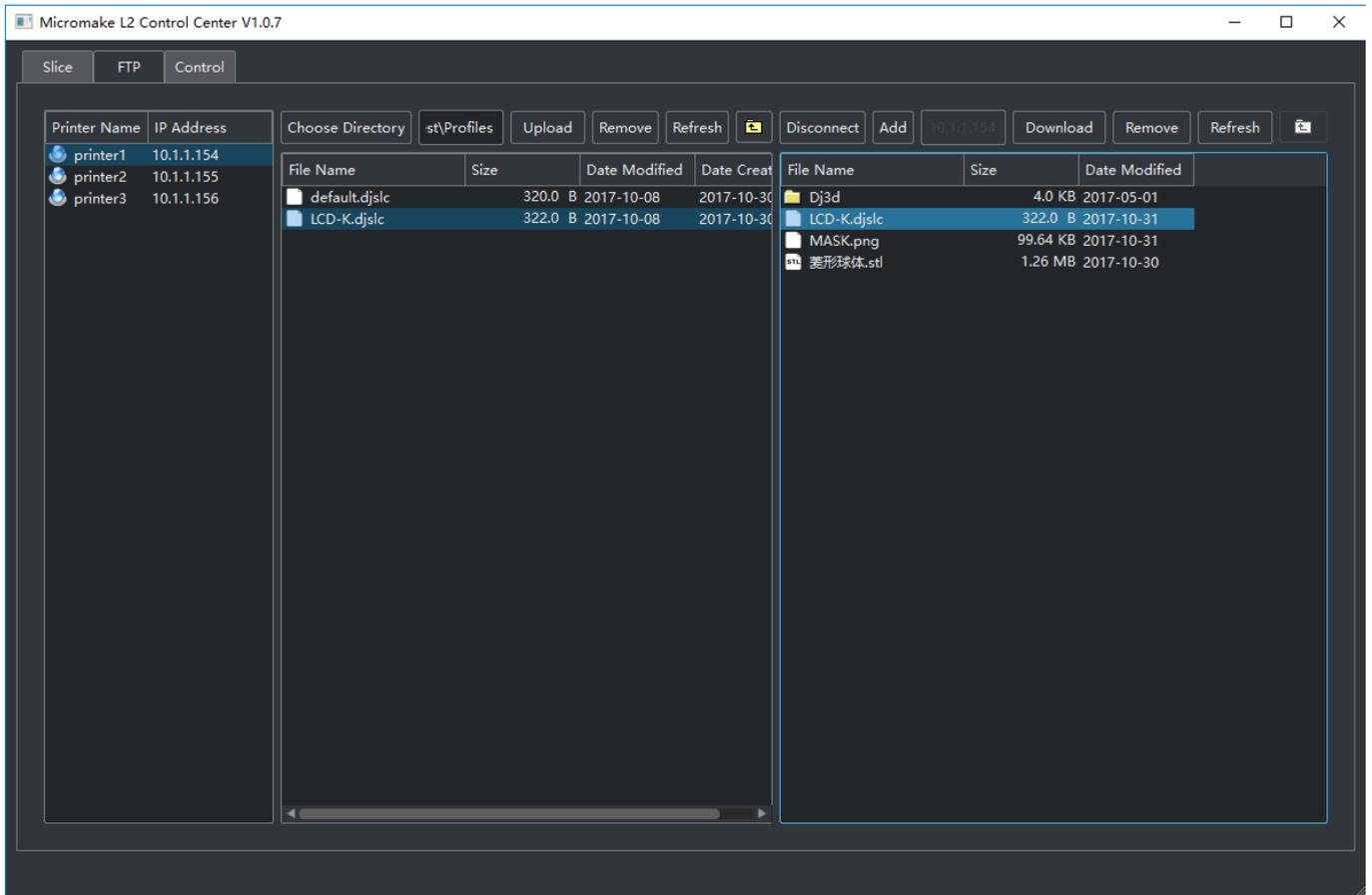
# L2



**Note:** remember to click “Save” button after change the setting. Or click “Save as” butto to save the setting in “Profiles” list, then you can chnage to your saved slice Configure file as the picture shows. And don’ t change the parameter that without introduce.



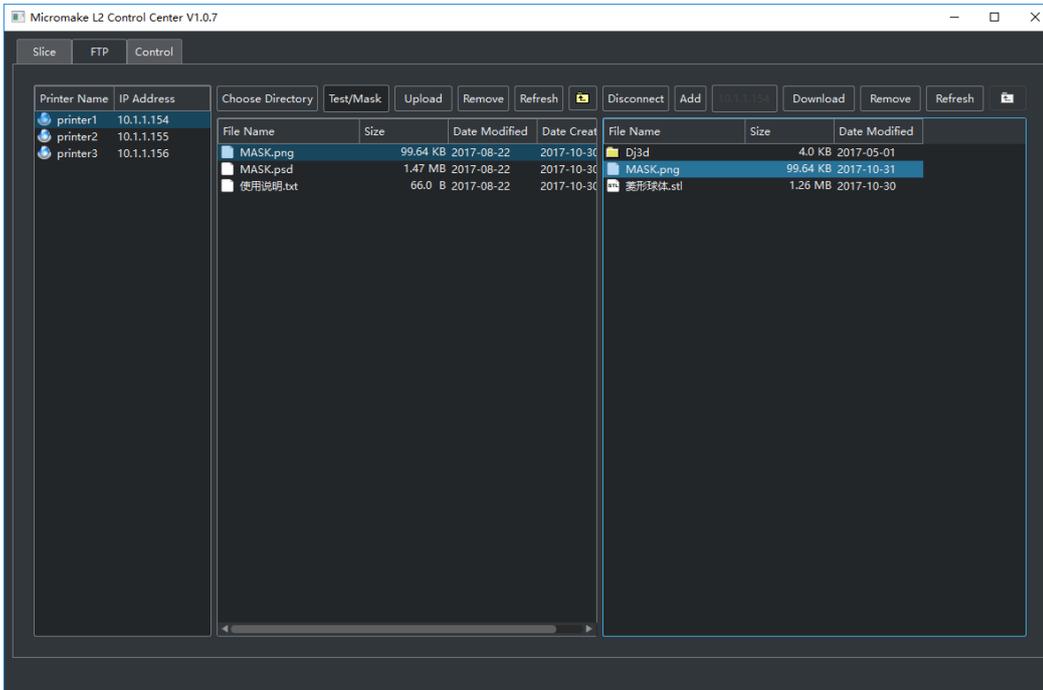
# L2



Can upload the configured slice file in Profiles in computer to Profiles directory in printer through FTP. you can select your slice configuration file in the print stl format file on the touch screen in the "slice configuration" , it will follow your slice configuration parameters to slice the stl file.



## Introduce of Mask:



The function of mask is used to correct the illumination unevenness, "MASK.png" in the "Mask" folder under the software directory is the mask image used for the test, "MASK.psd" is the source file, and the MASK.PNG is uploaded to the printer in the "Images" directory. If the mask function has a metering tool, it can be modified according to the actual test result. This function is generally not required to open, open a small area after printing a single layer of curing time needs to be increased. Deleting the "MASK.png" picture in the "Images" directory of the printer will turn off the mask function.

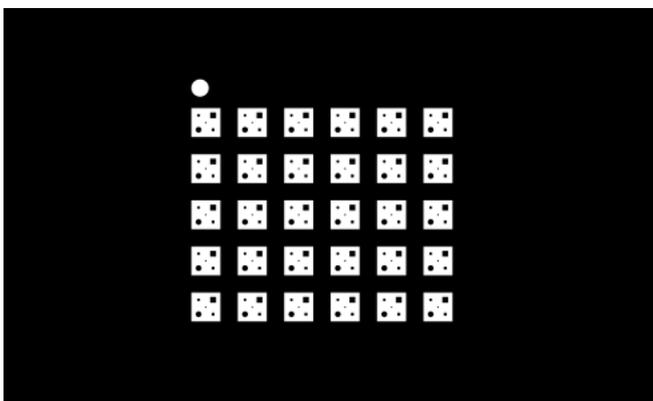


## Resin Performance Test Skills:

We offer three different levels of test models in the "Tests" directory of the printer.

File Name	Size	Date Modified
tune-0025.mms	1.97 MB	2017-09-26
tune-005.mms	1.96 MB	2017-09-26
tune-01.mms	1.96 MB	2017-09-26

Layer height of 0.025,0.05,0.1.will print 30 squares after beginning,1 second - 30 seconds of printing time shown in the following figure, by printing this test model, you can quickly get your fastest single-layer curing time:If you can print 25 squares successfully, indicating that the resin single layer can be cured for 5 seconds,then the model single-layer time can be set to 5 seconds;If you can print 29 squares, indicating that the resin single layer can be cured for 2 seconds.





## Possible factors and solutions for printing failure:

- If there is no part of the model remaining on the platform, there are two main reasons, one is the first floor of the exposure time is insufficient, you can improve the first floor exposure time, the second is incorrect platform leveling, the gap between platform and trough bottom is too large
- When printing the first few layers, you can click the "Pause" button to raise the print platform, so that it will be easy to observe whether the first layer adherence to the platform. If normally, if there is no problem, click the "Continue" button to continue printing, if not sticky, you can stop printing, increase the exposure time or re-leveling, to avoid resin waste and time waste caused by printing failure.
- If a part of the model is on the platform and the other part is at the bottom of the trough, the possible reason is insufficient exposure or insufficient draft height or too fast draft speed.
- Model deformation or having no details can be solved by [shortening the exposure time](#) or [by adding a solid color paste](#) or [reducing the print layer](#).

# L2



## Q & A:

1. Q: Is it possible to print stl files locally without connecting to a computer?

A: **Yes**, see "[Offline Printing Instruction](#)". When selecting a stl file, you can print using the local slice settings, but when the model is larger than 20M, it is recommended to use the "[Micromake L2 Control Center](#)", WiFi connection, more faster.

2. Q: How to deal with the emergency when the platform is out of control?

A: At any time in case of emergency (Z axis movement out of control), click on the touch screen to enter the "[MANUAL CONTROL](#)", click the "[EMERGENCY STOP](#)" button.

3. Q: What kind of files can the Micromake L2 3D printer recognize to print?

A: The machine can print stl, cws, mms suffix files, cws for Creationworkshop software slice files, mms for Micromake L2 control center slice files.

4. Q: Can I connect the printer wirelessly?

A: Yes, through the WiFi settings option in the page, after you enter the user name and password of the local WiFi and save it, the printer will display the IP address on the information page; then enter the IP address on the computer's control software, you can transfer the file and control the printer.



5. Q: Will the “computer-side control” and the “printer local touch screen control” conflict with each other?

A: No, because either end of control will be synchronized at the other end.

6. Q: How many model files can the printer store locally?

A: There are more than 6 G of storage space, the printer built-in 8G high-speed TF card storage, the system takes up only 1.5G, the rest of the space can be used to store your print model.

7. Q: Do I need platform leveling before each print?

A: No, after the boot leveling, if the platform lock screw loose or displacement, you can click the "MANUAL CONTROL" of the "START LEVEL" button to leveling the platform again.

8. Q: What are consumables?

A: Screen, bandage and resins are the consumables, if damaged, need to purchase for replacement.



9. Q: Too much residue in the trough,it is difficult to clear one by one, how should I deal with?

A: After long-term printing, the residue in the trough is more.Don' t worry,you can do it easily by the trough cleaning button!Click it and after the screen keep all bright for 10s, at this time, the bottom of the trough will have a layer of curing film wrapped with all the residue;then using the ink cut knife,cut the cured film along the corners,and abandon,the bottom will becompletely clean then. But for some resin, 10s is not enough, to form a layer of membrane that is enough to open, you can select another 10s. If you use water washing resin, you can directly remove the whole trough into the water,soak for more than a few hours can be easily removed.

10. Q: It is too much time to turn off the power by pressing the power button,can I turn off the power directly before the screen prompts "YOU CAN POWER OFF"?

A: No! Directly cutting off the power may damage the system, resulting in the failure to read the file, offline system crashes, do not directly cut off the power. When the following picture appears and then cut off the power.



# L2



### Model cleaning:

Once the printing is done, remove the platform, then remove the model from the platform, wash the resin, can be directly washed under flowing water.



Cleaning time should not more than 5 minutes,if too long,details of the model will easily become soft and the model surface get whiten, the smaller the detail part is,the shorter cleaning time should be.A small amount of detergent, hand sanitizer, soapy water, shampoo and other cleaning fluid, can quickly remove the grease on surface of the model,making the model dry. During the cleaning process,if you use a soft brush to clean, the surface will be smoother.



## About resins:

### - Resin storage

Resins should be kept in the dark and ventilated place, storage temperature:20°C-30°C,lower temperature can extend the shelf life, the official resin shelf life is 1 year.

### - Resin operation

In normal operation, please wear gloves,to avoid the risk of skin allergies during long-term frequent contact with the liquid state of the resin, cured resin is same with ordinary plastic ,Except special products, the resin can not be used for food contact or long-term contact with the human body.If your skin is accidentally exposed to the resin,should be promptly washed with water and soap.

### - Approach

Resin and skin long-term contact and non-cleaning will cause damage to the skin---burning. Contact with eyes or eat carelessly ,please seek medical attention immediately. Skin contact with the resin directly, a few people may produce allergic symptoms. Its clinical manifestations are acrylate allergy.can use Qu Mi new cream, smear to the affected area or taking anti-allergic drugs. Such physical groups will recover after taking medicine, re-contacting will also lead to allergic, repeated two or three times will be lifelong immunity.



### - Preservation of recycled resin

For the used resin, the rest part should not pour back into the original bottle, the resin can be filtered into other containers, temporarily store in the dark. Can also be stored directly in the trough, cover the shade, dark storage. After the using, the storage period of the resin will be correspondingly shorter, need to run out as soon as possible, add fresh resin can effectively improve the shelf life of the resin.

### - Mixing of resin

Micromake offers all kinds of resins that are free to mix and do not cause immiscibility, but mixing different types of resins can result in decreased or lost performance. Such as the use of slow curing resin, adding high-speed curing resin can accelerate the curing speed, the higher the concentration of paste, the longer time the bottom curing needs, the original color paste has no effect on the single layer curing speed.

### - Resin abandoned

Liquid resin should not be discarded directly, can be concentrated in a one-time cup or self-styled bag, sun exposure until completely hardened, and then it can be discarded as ordinary plastic.



### Post-curing:

Once the model is finished, it is possible that the surface is still sticky and then it needs to be cured.

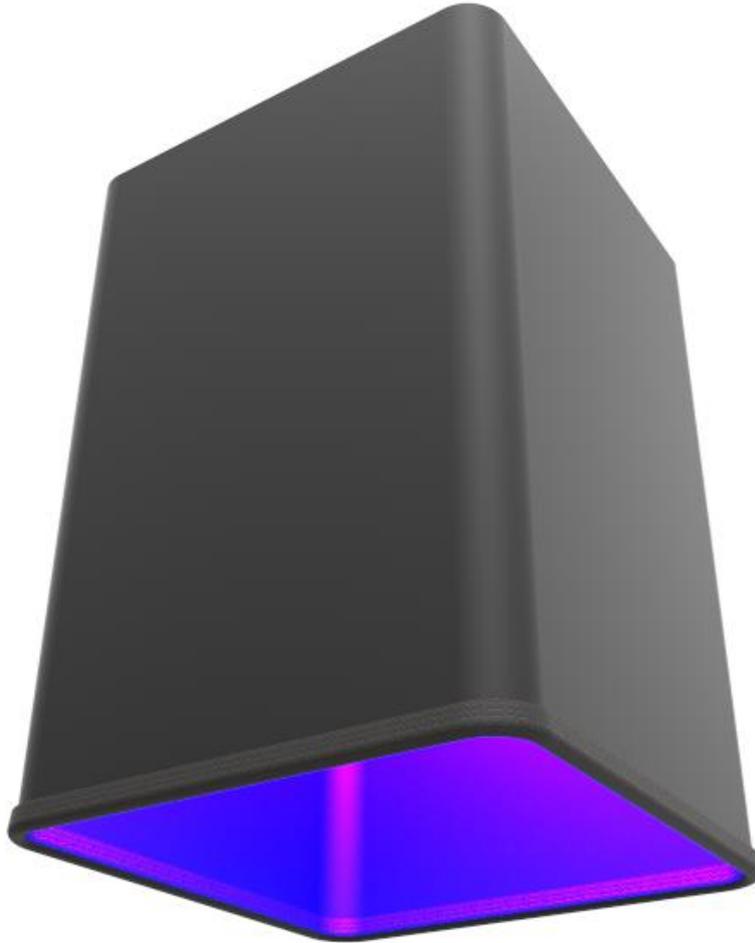
First turn off the printer and cut off the power, remove the hood, insert the printer's power into the hood of the power connector, as shown in the figure.



# L2



Open the Post-curing lamp.



Place the cleaned model in a hood for post cure.

Post-curing can make the model get higher hardness and strength, with the increase of time the model strength will be greatly improved, recommended post-curing time:15 minutes or more.



## Little Tips:

1. Check the resin box and platform before printing, ensure they are clean.
2. After taking out the model, remember to cover the lid to prevent the resin curing.
3. After finish printing, you can keep the resin in other container or in the resin box, After using, the storage period of resin will be correspondingly shorter, and need to run out as soon as possible, add fresh resin can effectively improve the shelf life of the resin.
4. If the printing fails, the model is stained on the membrane in the trough, pour out the remaining resin, and then gently remove the model with a soft, flat substrate of plastic such as a bank card.
5. If you are using a washable resin, simply rinse the model with water.
6. Turn off the printer, insert the power into the hood, and open the rear cure light of the hood. Place the cleaned model in a hood for post cure.
7. The printer's two USB port, not only can be used to read the USB device data, but also for a variety of USB devices to charge, power supply, we provide two interfaces, U disk printing and mobile phone or platform charging can be carried out at the same time.



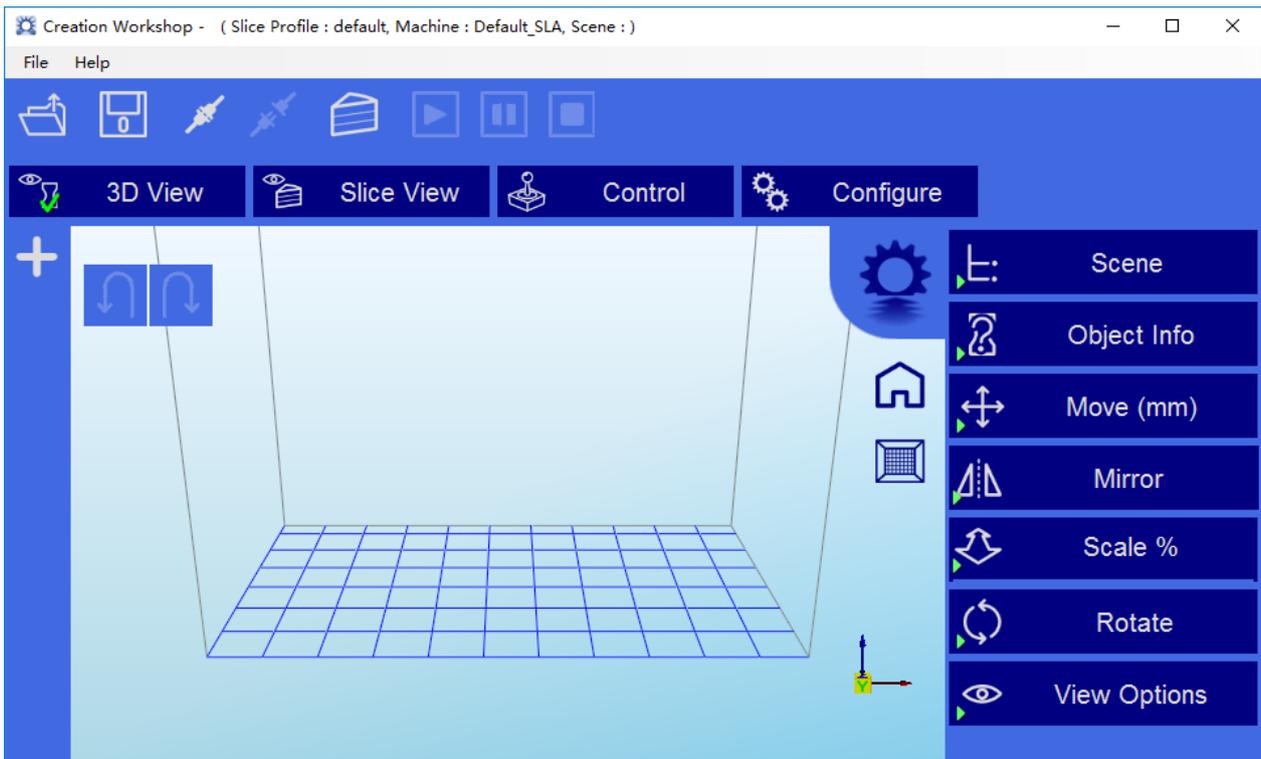
# L2

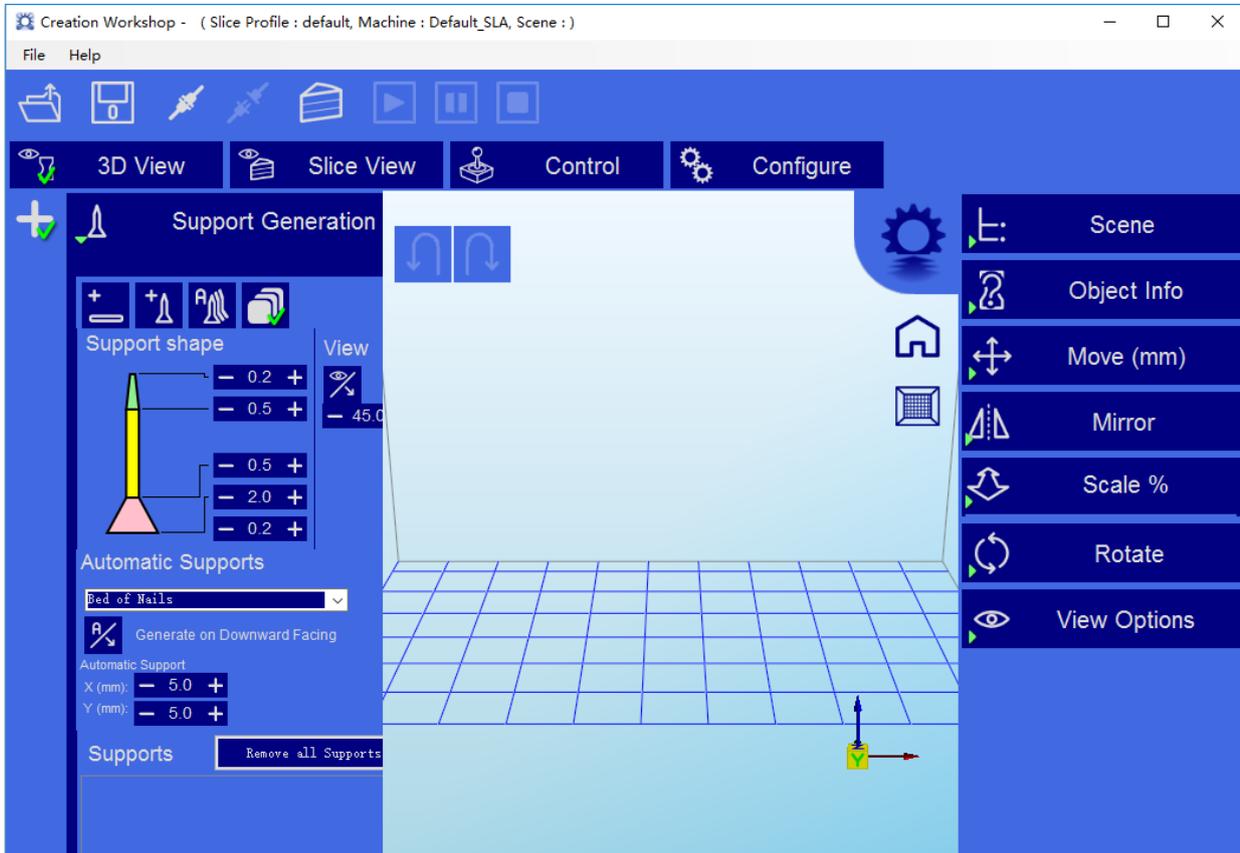


## CreationWorkshop tutorial:

Usually using the "Micromake L2 Control Center" slice is enough, but the CreationWorkshop have some intimate settings, " Enable Slice Outlines" can reduce the size of the model pixels, as we still need using CreationWorkshop to meet some special needs, here we introduce the settings and slicing steps.

Run the "CreationWorkshop" program in the "CreationWorkshop" folder.





Import model (support STL, OBJ format)



Save the CWS format



Slice button



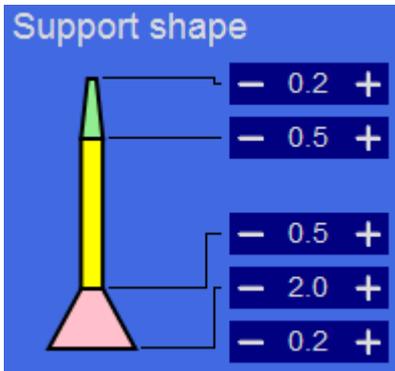
After importing the model, you can add support as needed.



Open the support option,  click where you need to add the support, then the support can automatically generate.



The other two buttons are  bottom support and  automatic support.



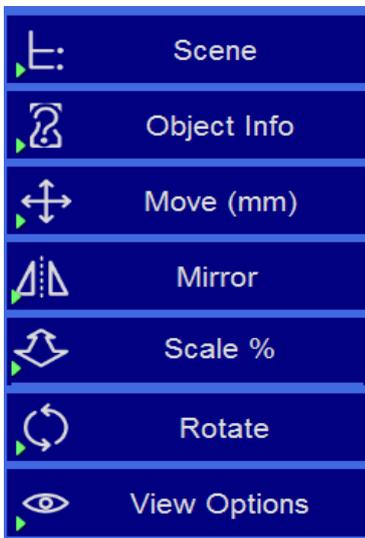
the thickness of support can be adjusted, the top must not be

less than 0.25MM, the root not less than 0.6MM.



If you model by using PROE and CREO, FRONT face is the "bottom" of the model instead of TOP.

The imported model may differ in size and location from the print area and can be adjusted by the property bar on the right side of the control center.

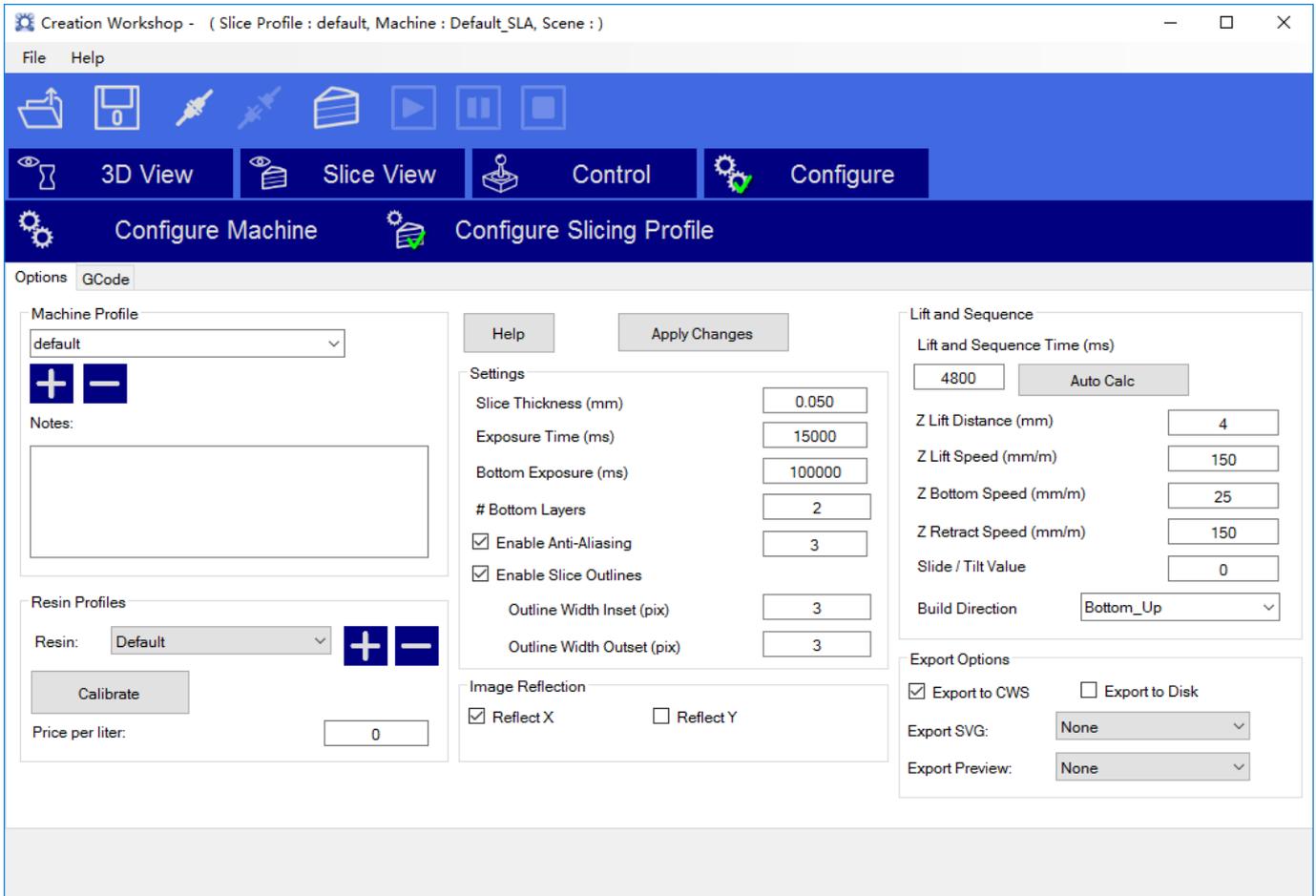


Among the above function, "Move(mm)" comes with three small features, you can easily locate the model quickly.



These three functions are "Fit the base" (hope that you press the button before each cut, because some models are not fit the base);

"XYZ axis absolute in the middle"; "model in the middle";



“**Enable Slice Outlines**” is the feather value option (set the value, the more the more smooth), feather rate can reduce the model pixel pattern. The general value of 3 or more, can effectively alleviate.

“**Slice Thickness(mm)**” setting range: 0.02-0.1MM.the default is 0.05MM, the smaller the thickness is, the higher the accuracy will be, and more time the printing will need. Exposure time can be reduced if the layer thickness is smaller.



"**Exposure time(ms)**" can be set according to the actual situation. Default 15 seconds, print smaller and simple structure model can reach up to 2 seconds. If the details of the print can not be showed during the printing, then increase the single exposure time. For some models with holes, the shorter curing time will be better. While for models with smaller columns, the longer the curing time is, the better effect will be.

"**Bottom exposure(ms)**" default 100 seconds, when printing smaller and simple structure model, it just need 5 seconds to stick to the platform in some cases. increase the exposure time if the model can not stick to the platform. The longer the exposure time is, the more tight the base will stick.

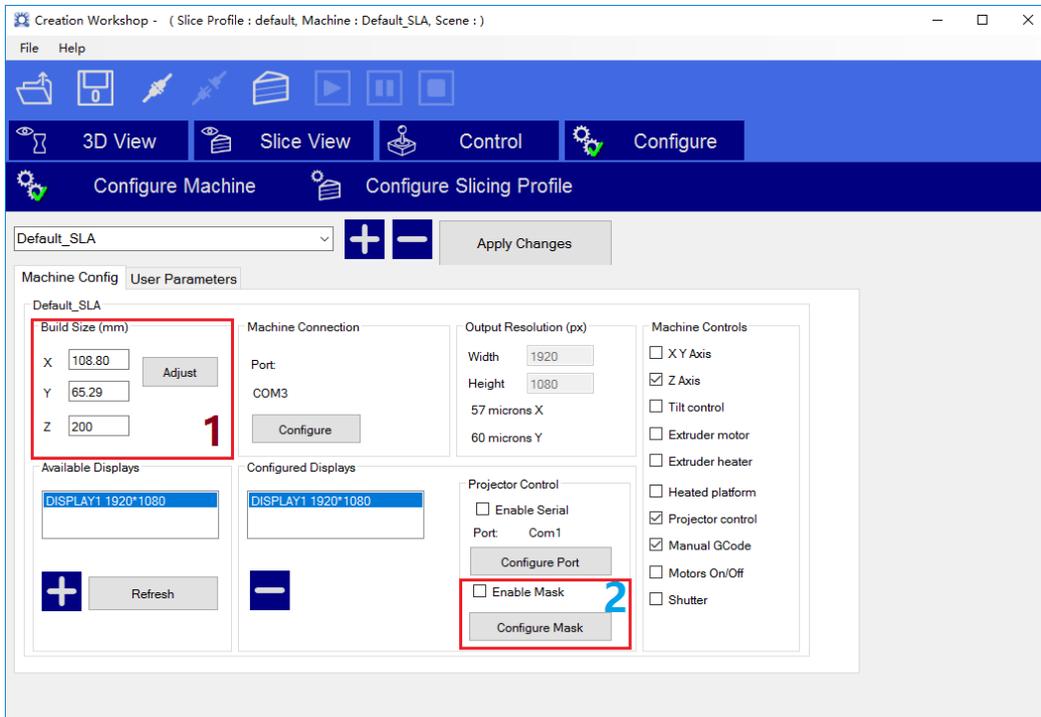
"**Z-axis lift distance(mm)**" can be set according to the model size, if the area is too large but the lifting height is low, the resin can not be returned to the middle of the model, resulting in bubble in the middle part, defect or print failure---just raise the height of the Z-axis table.

"**Z-axis lift speed(mm/m)**" default setting: 150mm/m, the setting range is recommended between 50-150mm/m.

"**Z-axis retraction speed(mm/m)**" default setting: 150mm/m, the setting range is recommended between 100-150mm/m.

**Note: Remember to click the "Apply Changes" button to take effect after your setting is completed.**

# L2



1. If Print Size has a slight deviation from the actual size, you can change the display size, correct the print size by adjusting the XY value of the "Build Size(mm)".
  2. Mask function is used to correct the light uneven, select the "Enable Mask" and click on the following "Configure Mask" to set the mask picture. Directory "Mask" folder "MASK.png" is the mask image for the test, MASK.psd is the source file, if there are metering tools, then you can modify according to the actual test results. This function is generally not need to open, if opened, a single layer of curing time needs to be increased.
- Note: Remember to click the "Apply Changes" button to take effect after your setting is completed.**



## Model slicing steps:

First, import the model that needs to be printed

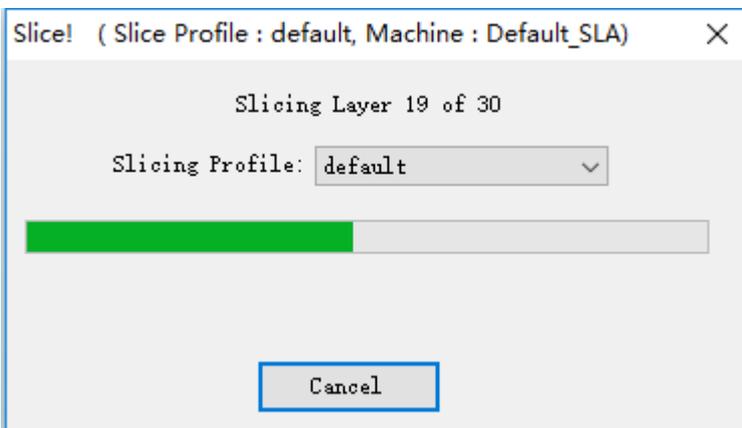


Edit the model.

Save the model to the desktop, enter any file name and save it (for example, the file name test1).



Start slicing



Finally, upload or copy the model to the U disk through the control center, and then print with the printer.



## Advanced learning:

### Control of the Z-axis “layer pattern” :

The reason for the generation of the Z-axis “layer pattern” is, at the Z axis direction, the arc face is too fast to cause the appearance of the step-pattern.



It can be resolved by reducing the layer thickness. Layer thickness need to be modified from 0.05mm to 0.025mm, Exposure time should be modified to 60-80% of before, If there are thinner details, you can increase the exposure appropriately.





### Control of the XY axis “layer pattern” :

XY axis "layer pattern" is also called pixel pattern, the main reason is the pixel lattice.



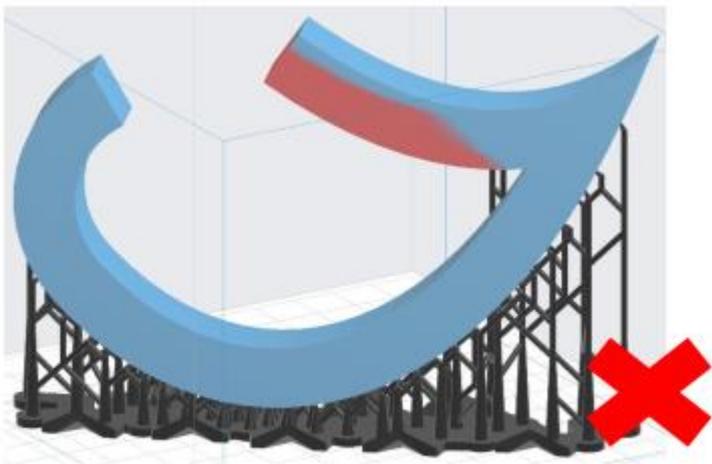
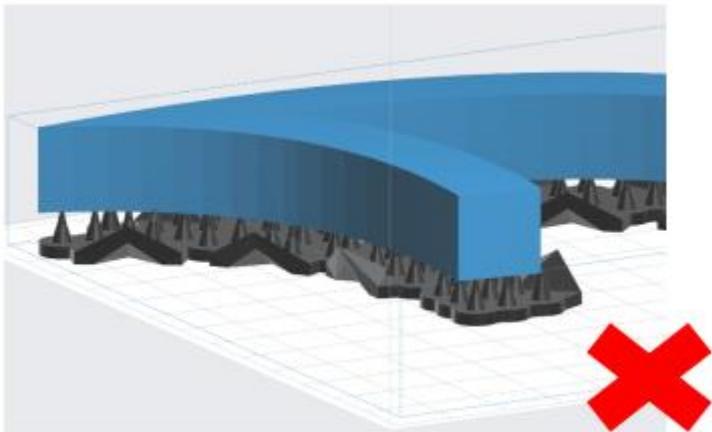
Reduce the XY pixel pattern,you can add white color paste to increase the reflected light, fuzzy pixel pattern;It is also possible to reduce the pixel pattern in a particular direction by rotating the model by 45 degrees in the Z-axis direction;Finally, through the CreationWorkshop software----Load the slice outline function,you can also reduce the pixel pattern, the value can be selected, the general value of 3 or more can effectively alleviate (such as transparent model) ;



# L2

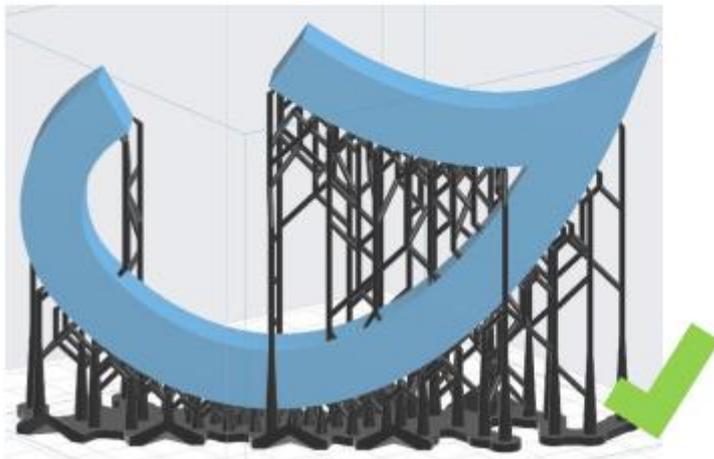
**The correct way to add the support:**

Get the machine, all ready, did you find that not all models can be printed directly, and some of them need to add the support. Perfect support can reduce the posture of the later work of the model. See below and learn how to properly place the model to add support.



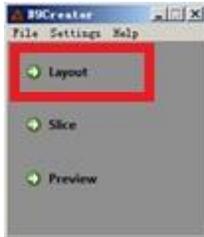


MICROMAKE  
3D PRINTER



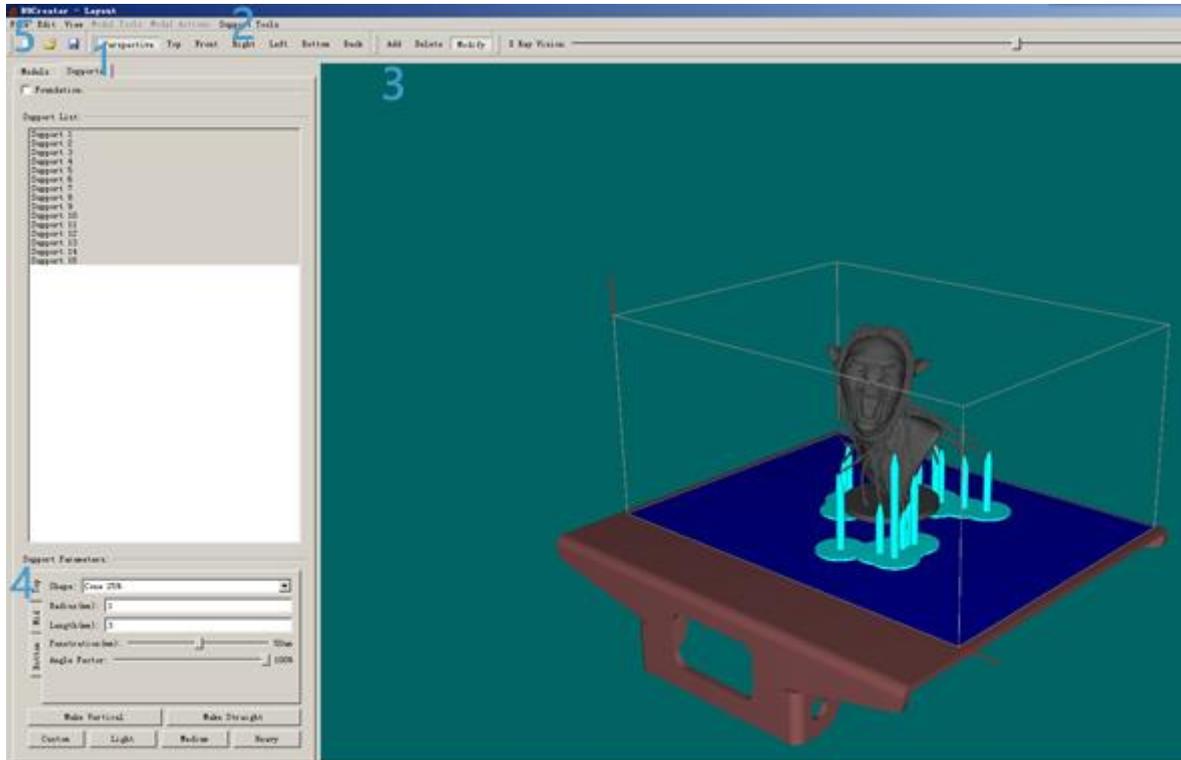


## Flashprint:



Advantage: It is the best software that can add support manually, meanwhile, it can adjust the hape density of the contact point of the support freely. So it' s suitable for the Detailed model like jewelry. It can freely export STL model in the control center to do slice for printing, and also has automatic support tool.

Disadvantage: this software require experienced operator, because the automatic.support is not prefect so need manually adjust, and it doesn' t suitable for high and fine model cause there is no support between horizontal connection.



2.

1. choose model-SUPPORTS.
2. automatic supports.
3. support tool(Add, Delete, Exit).
4. choose support type,size and height.
5. export stl file.

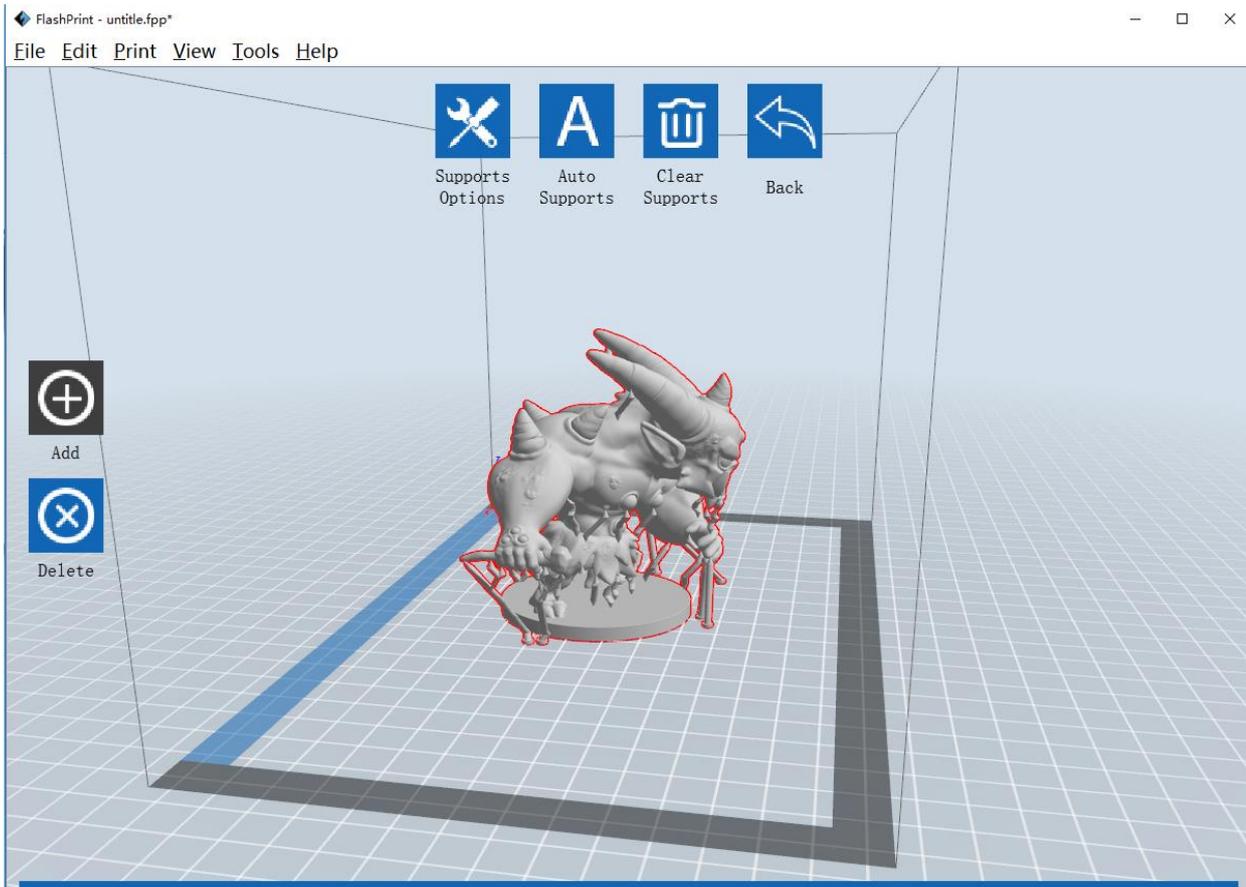
L2



## Flashprint:

**Advantage:** one of the best tool to do automatic support,with Chinese page and one key to automatic add support, usually can be print directly, can freely export STL model in the control center to do slice for printing. Suitable for the beginner, and the most amazing function is to preview the model when open this software.

**Disadvantage:**Support contact points can not be freely modified the thickness, it is easy to print success, but not easy to remove the support, late grinding more trouble.



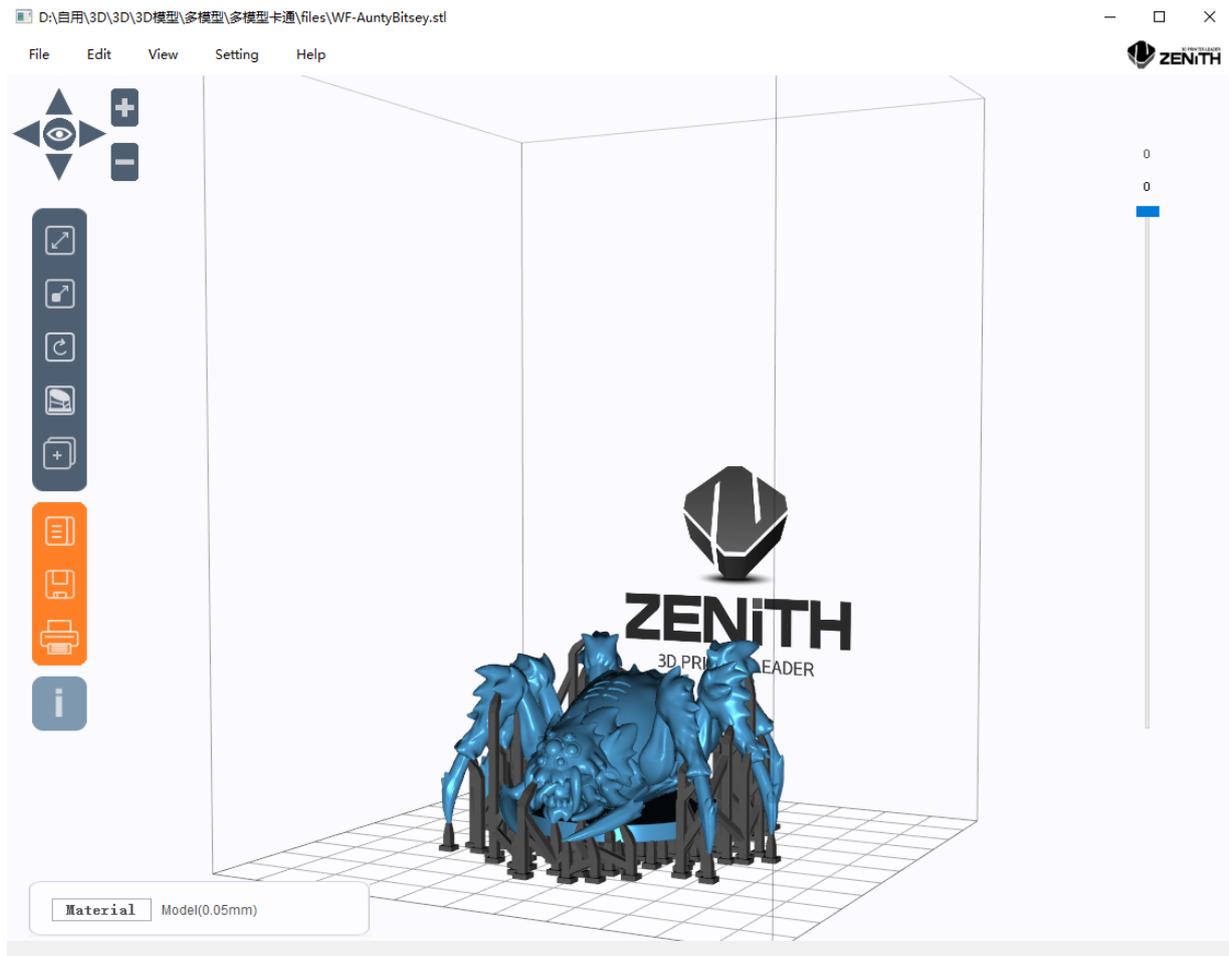
# L2



## Zenith:

**Advantage:**one of the best tool to do automatic support,with Chinese page and one key to automatic add support, usually can be print directly, can freely export STL model in the control center to do slice for printing. Suitable for the beginner.

**Disadvantage:**Automatic support is not perfect, can not automatically add non-floor support, that is, the user can not add their own if the support is not rise from the bottom,(model chin should not support the actual addition).

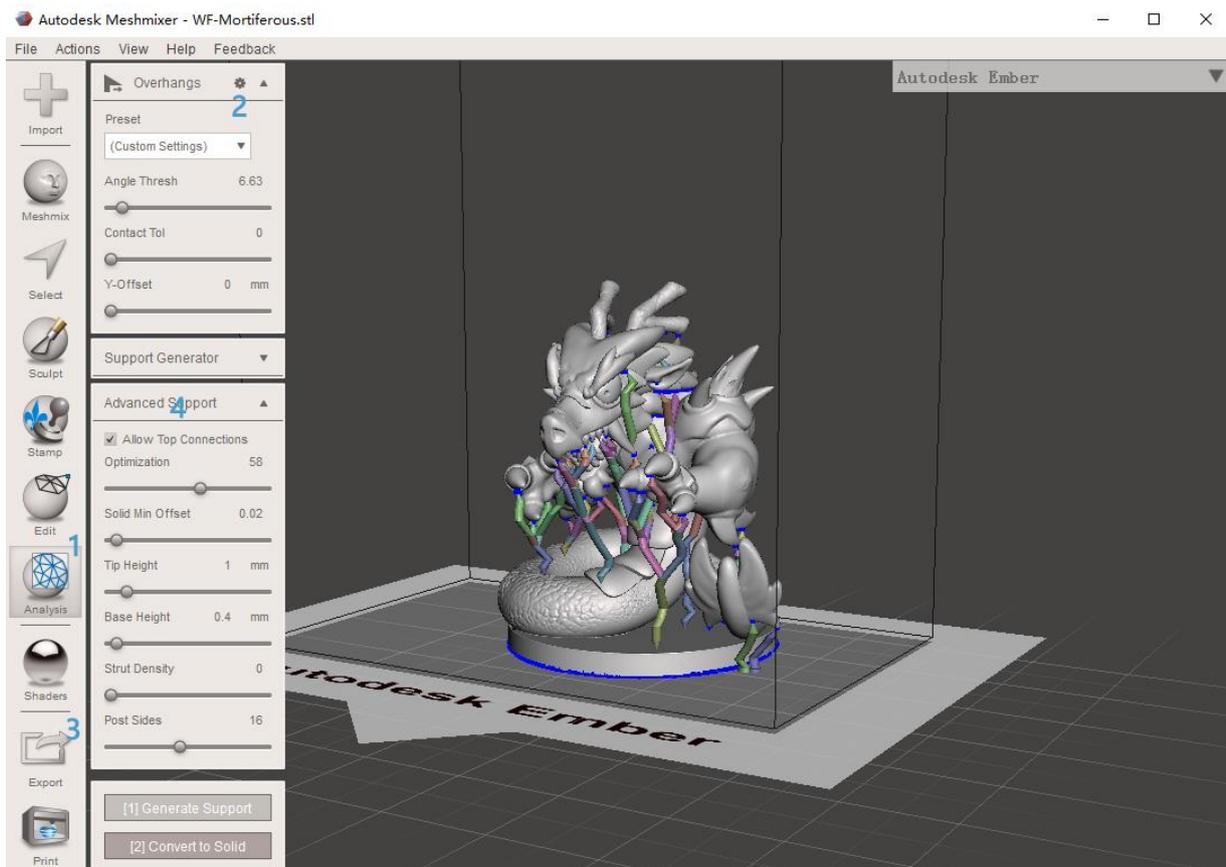


# L2

## Meshmixer:

Advantage: usually used repair, split, cut, measurement, analysis, shelling function, has perfect automatic support, it can freely export STL model in the control center to do slice for printing. Suitable for the beginner. it's the most versatile third party software with various function, can achieve all of your demands.

Disadvantage: Because there are too many options, so has more influencing factors, has high require for beginner, and the manual support a bit anti-human.



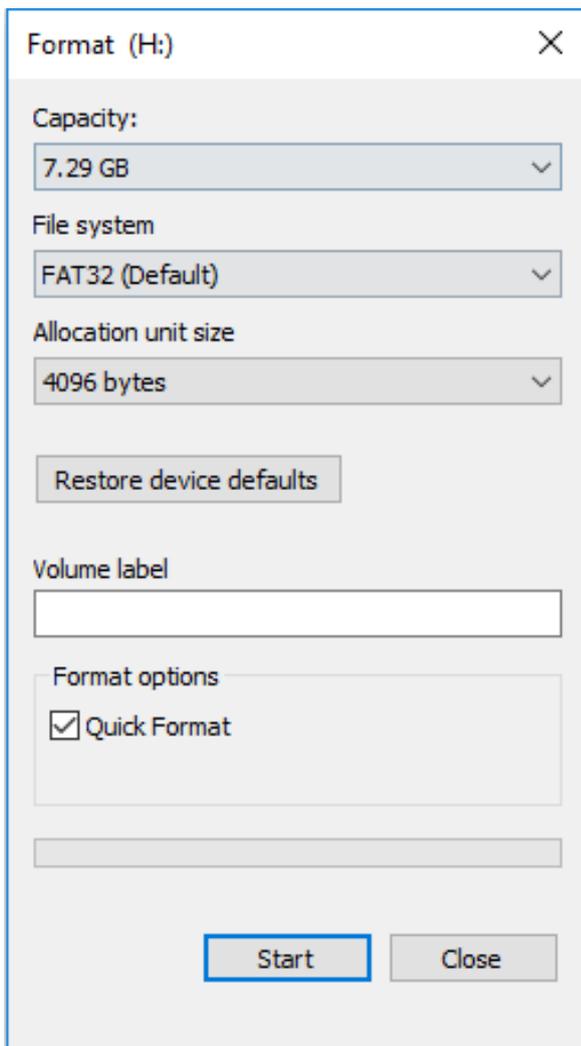


- 1.Support module here.
- 2.Choose DLP/SLA support type.
- 3.Export stl file.
- 4.Parameter Configuration.



## When the USB flash disk or memory card can not be read:

For the first time you use, format the USB flash disk or TF/SD card, FAT32 file system, allocate unit size please select 4096 bytes. As shown below:



After the format is complete, copy the model file to the USB flash disk or TF/SD card, and insert it to the printer ,then you can begin your printing.