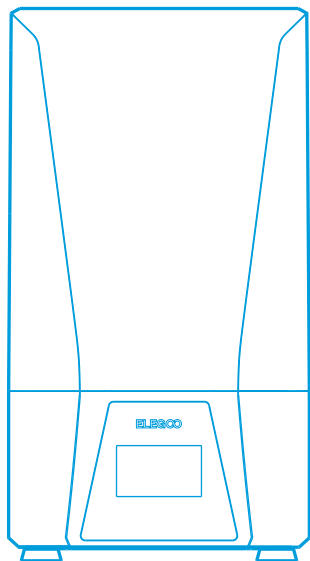


ELEGOO

● **Saturn 3 Ultra
3D Printer**



User Manual

Thank you for purchasing ELEGOO brand products.

V1 ●

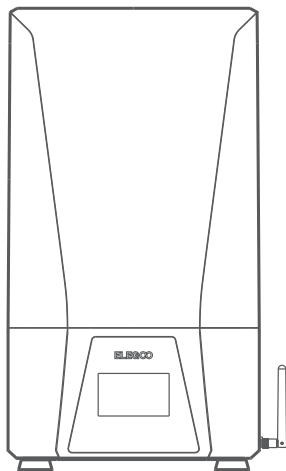
After receiving the product, please confirm whether the equipment is intact and the accessories are complete. If there is any damage or missing, please timely contact us at 3dp@elegoo.com. (To ensure the performance of each product, each product will undergo strict printing tests before leaving the factory. There may be some slight scratches when you receive the product, which is normal, please rest assured to use.)

Notice:

- Please keep the 3D printer and its accessories out of the reach of children.
- Please fill the resin tank no less than 1/3 of its volume, but do not exceed the MAX line position.
- Please place the printer in a dry environment and protect it from rain and moisture.
- If you run into an emergency during use, please turn off the power supply of the 3D printer first.
- Please use the printer indoors and avoid direct sunlight and a dusty environment.
- Please keep the original packaging box for 30 days for return/exchange (only ELEGOO original packaging boxes are accepted).
- If the printing fails, you need to clean the excess cured resin in the resin tank and change the resin, otherwise, it may cause damage to your printer.
- When operating the 3D printer, please wear a mask and gloves to avoid direct skin contact with the photopolymer resin.
- If the release film in the resin tank is whitened, scratched, or has no elasticity, the printing failure rate is high, please replace the release film in time.
- Please use 95% (or higher) ethyl alcohol or isopropyl alcohol to wash your model unless you are using water washable resin.
- Please note that the Mylar tape surrounding the screen is not completely airtight. In case of resin drips during use, it is crucial to promptly clean them to prevent resin infiltration and potential screen damage.
- To maintain the cleanliness, durability, and protective performance of the LCD screen, it is necessary to timely replace parts under the following conditions: aged or damaged tape, corrosive damage, and damaged release film.
- If you have any problems with the printer, please contact us at 3dp@elegoo.com. Please do not disassemble or modify ELEGOO 3D printers by yourself, otherwise, the warranty will expire, and damage caused by personal operating errors need to pay for repairs.

Contents

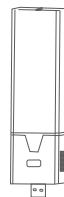
Packing List	01
Printer Introduction	02
3D Printer Tech Specs	04
Operation Screen Introduction	05
Leveling	11
Test Printing	14
Software Installation and Setup	15
WiFi Module Instructions	19
FAQ	21
Machine Maintenance	23
Warranty Statement	24



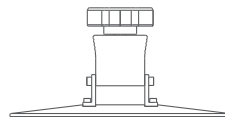
Saturn 3 Ultra 3D Printer



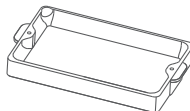
Wifi Antenna



USB Air Purifier



Build Plate



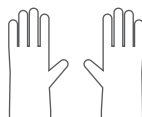
Resin Tank



U Disk



Mask



Gloves



Funnel



Backup Screws



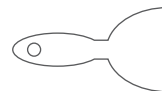
User Manual



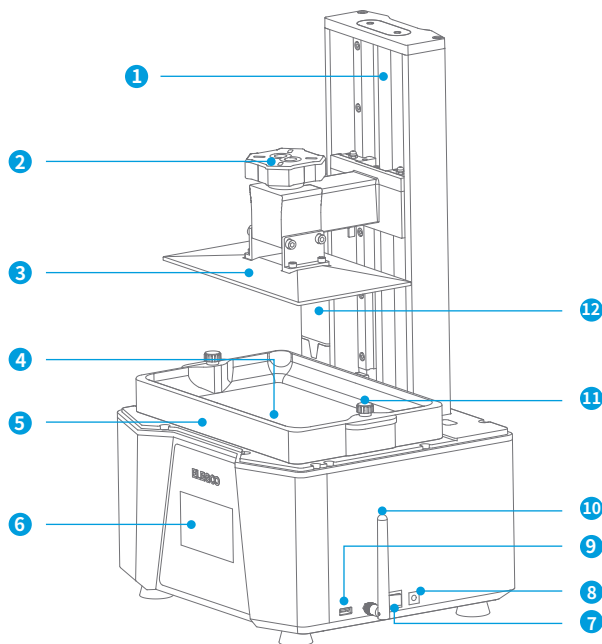
Adapter



Tool Kit



Scraper



1
Z Axis

2
Screw Knob

3
Build Plate

4
LCD Display Screen

5
Resin Tank

6
Touch Screen

7
Switch

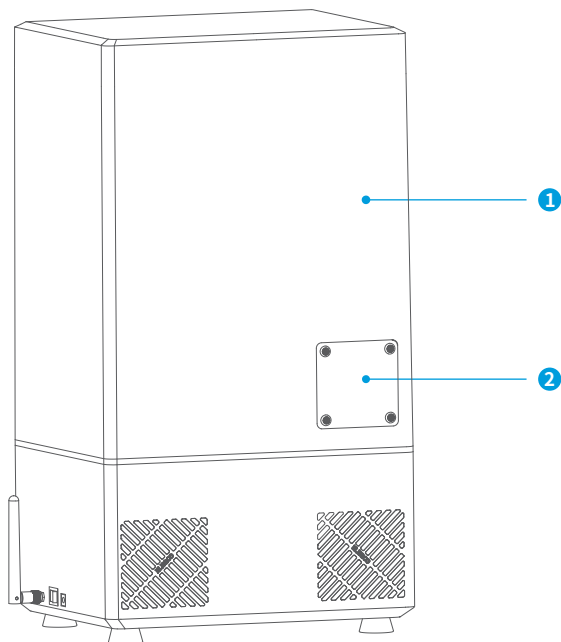
8
DC Socket

9
USB Interface

10
Wifi Antenna

11
Screw Knob

12
USB Air Purifier



1
Anti-UV Cover

2
Extension Port (Connect
peripherals, such as a mini
heater and other compatible
printer accessories)

Printing Parameter

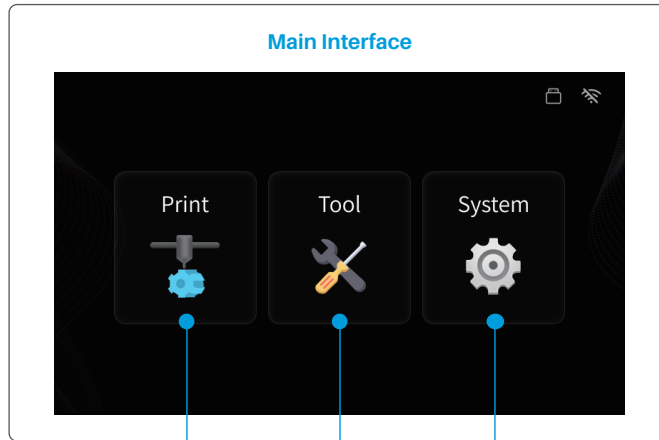
- System: EL3D-4.0
- Operation: 4.0-inch Capacitive Touch Screen
- Slicer Software: CHITUBOX & Voxeldance Tango
- Connectivity: USB Interface & WiFi

Hardware Specification

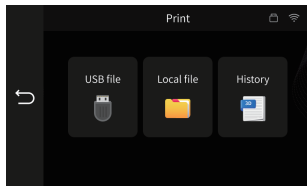
- Dimension: 305.9mm(L)*273mm(W)*562.5mm(H)
- Build Volume: 218.88mm (L)*122.88mm (W)*260mm (H)
- Package Size: 640mm(L)*395mm(W)*365mm(H)
- Gross Weight: 16.2KG
- Net Weight: 12KG

Printing Specification

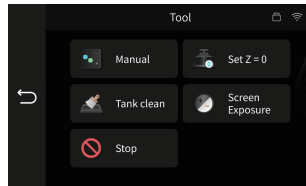
- Technology: MSLA Stereolithography
- Light Source: COB+Refractive Light Source (wavelength 405nm)
- XY Resolution: 19*24um (11520*5120)
- Z-axis Accuracy: 0.01mm
- Layer Thickness: 0.01-0.2mm
- Printing Speed: MAX 150mm/H
- Power Requirements: 100-240V 50/60 Hz 24V 7.5A



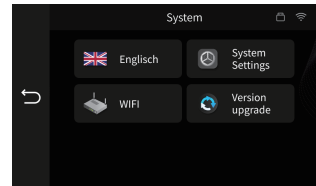
Print List



Tool List

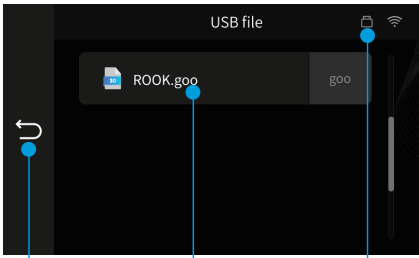


System List



Print List

USB Files

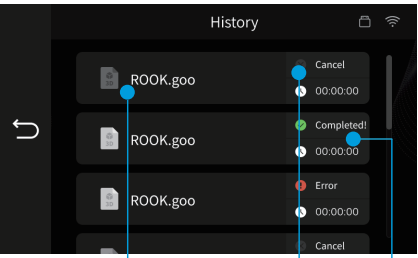


Back to the main menu

U disk file list

U disk status icon

History Record

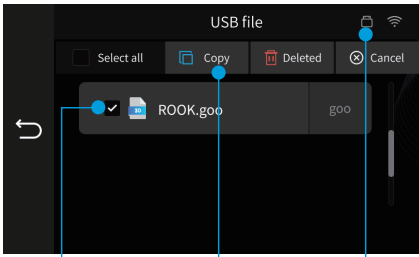


Click to enter preview, and long press to enter edit mode.

Print status

History print time

USB Files

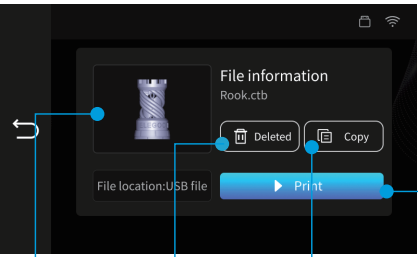


Click to enter model preview, and long press to enter edit mode

Copy the model to the local file

Insert U disk status icon

Model Preview



Model preview

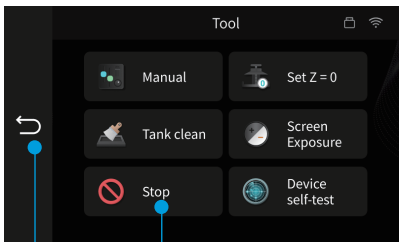
Delete the current model

Copy the model to the local file

Click to start printing

Tool List

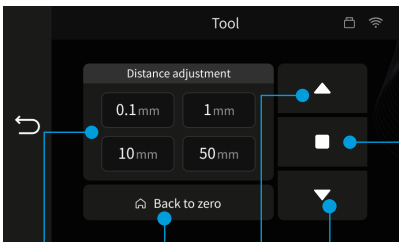
Tool



Back

Click to stop the Z-axis immediately

Manual



Select the distance of each movement of the Z-axis

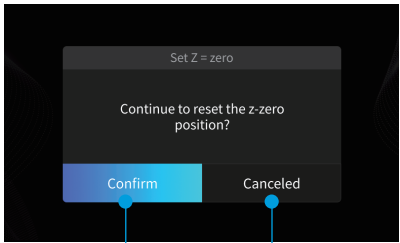
Z-axis returns to zero

Z-axis moves up

Z-axis moves down

Z-axis stops

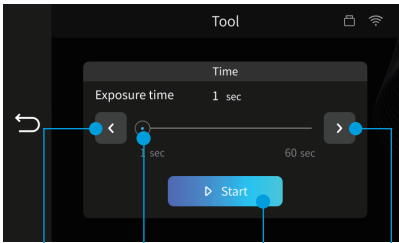
Set Z=0



Confirm to reset zero

Cancel reset zero

Resin Tank Cleaning



Reduce exposure time

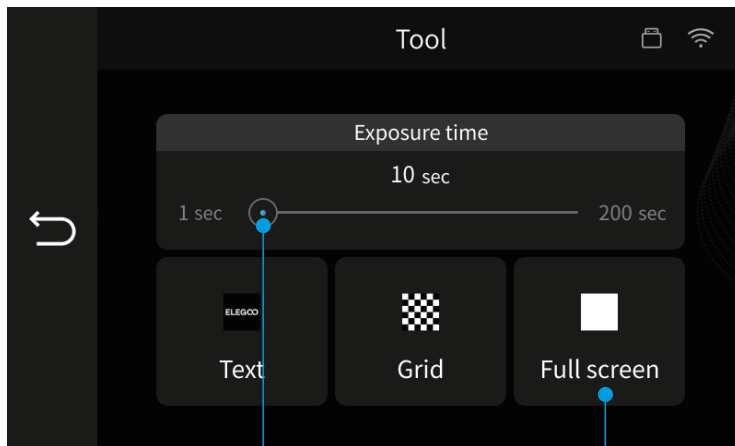
Set exposure time

Click to start exposure

Increase exposure time

Tool List

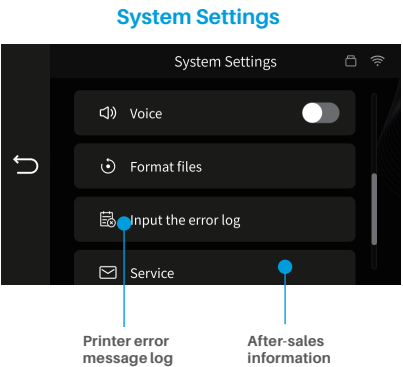
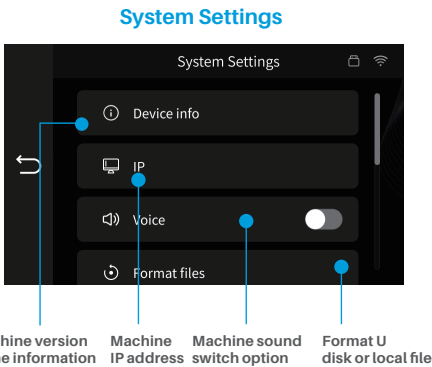
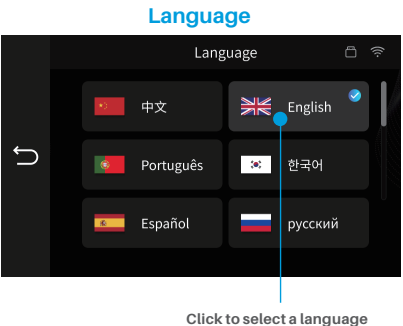
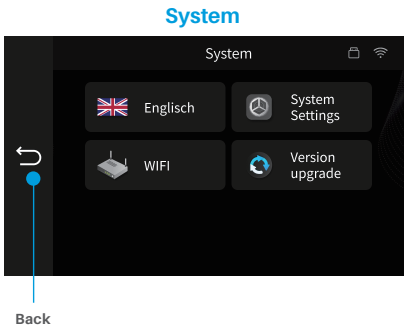
Screen Exposure



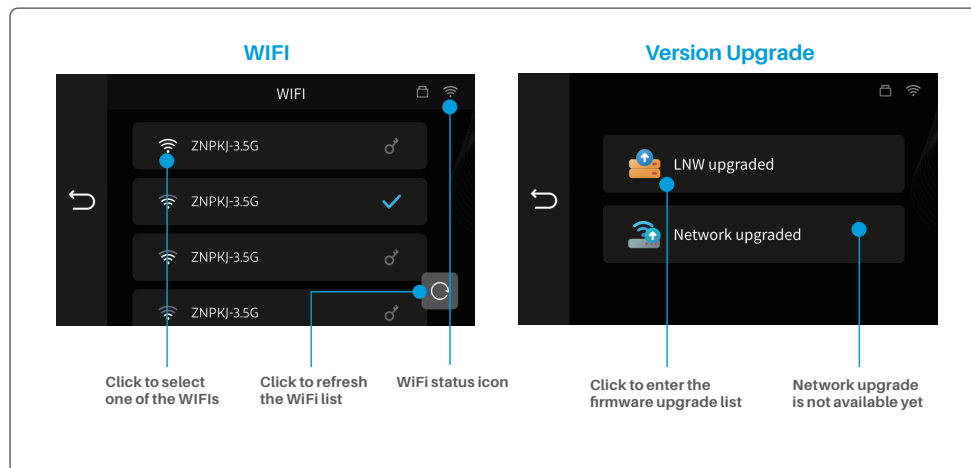
Set exposure time

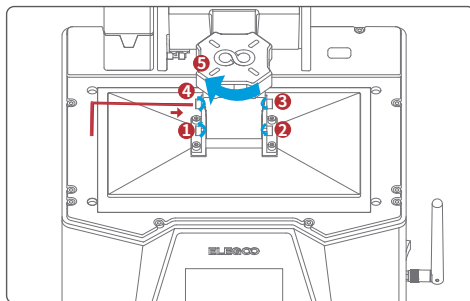
Select exposure type

System List



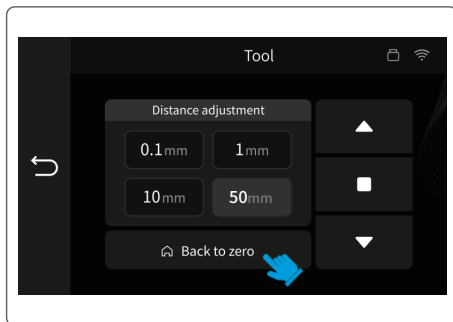
System List



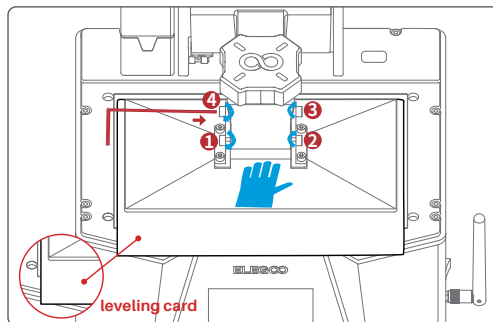


(Picture 1)

1. Remove the resin tank, lock the screw knob (5) of the build plate, and then loosen the 4 fixing screws (1 3 2 4) of the build plate until the build plate can move freely. (See Picture 1)



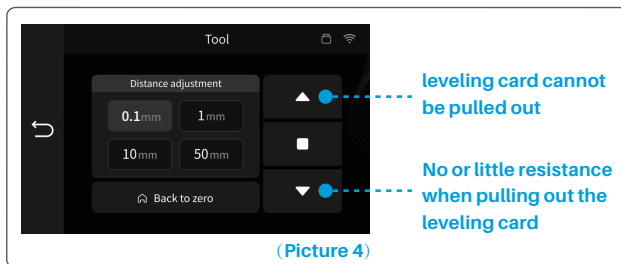
(Picture 2)



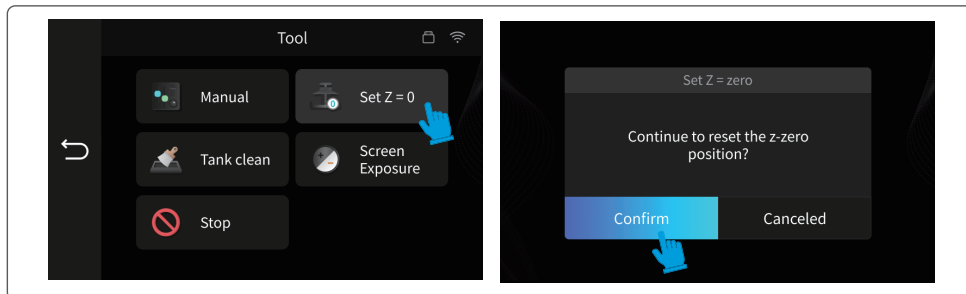
(Picture 3)

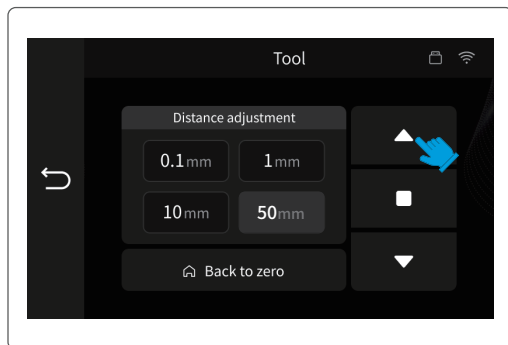
2. Place a leveling card between the build plate and the LCD screen, then click "Move Z axis to zero" (See Picture 2). After the printer stops moving, press the top of the build plate with one hand, and lock the 4 fixing screws (1 3 2 4) with the other hand. (See Picture 3)

3. Pull the leveling card. If you find there is a slight resistance during this process, you can go directly to step 5. (Note: If there is no resistance when pulling out the leveling card, please click the Z-axis "down" button (in steps of 0.1mm) until there is a slight resistance to pull the leveling card. If there is too much resistance or the leveling card cannot move, please click the Z-axis "up" button (in steps of 0.1mm) until there is slight resistance to pull the leveling card.) (See Picture 4)



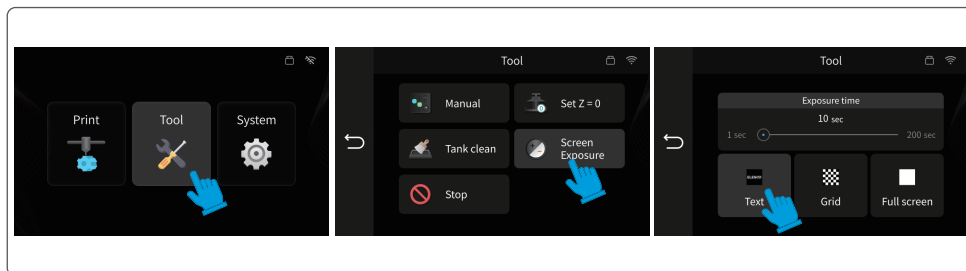
4. After completing the above operations, back to the previous menu, and click "Set Z=0", then a confirmation pop-up window will appear in the interface, click "Confirm" to complete the setting. At this time, the current Z-axis position is reset to the new initial height of the first printing layer. (See Picture 5)





5. Click back to the "Manual" page, and click the Z-axis "up" button to raise the Z-axis by a certain distance. (about 100mm) (See Picture 6)

(Picture 6)

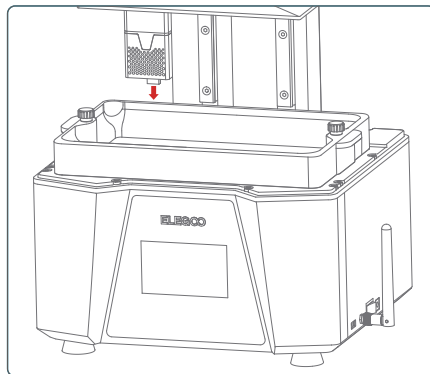


(Picture 7)

6. Take away the leveling card, and click the "Tool" - "Exposure" - "Text" buttons to test the LCD screen and LED light source. If the LCD can display "ELEGOO TECHNOLOGY www.elegoo.com", then the 3D printer works perfectly. At this time, the leveling is completed, install the resin tank and ready for printing. (See Picture 7)

1. Model Printing

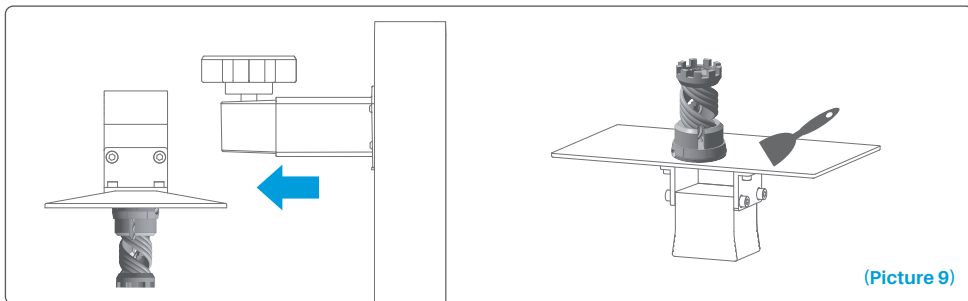
Plug the USB air purifier into the USB port (See Picture 8), then slowly add resin to the resin tank (do not exceed the MAX line height). Cover the printer and then insert the U disk into the printer and select the pre-sliced test model for printing.



(Picture 8)

2. Model Processing

After the printing is completed, wait until the resin on the build plate stops dripping, then loosen the screw knob of the build plate to remove it, and remove the model with a scraper. You can use ELEGOO's cleaning and curing machine to post-process the model. (See Picture 9)



(Picture 9)

The printer can install and use CHITUBOX and Voxeldance Tango slicing software in the USB flash drive, here we take CHITUBOX as an example.

1. Install CHITUBOX

Select the right version of slicing software on the USB flash drive and install it on your computer.

2. How to Use CHITUBOX

After the installation is complete, run the CHITUBOX software. Click "File-Open File", then open your 3D model file (.stl type). By left-clicking on the model and using the options on the left menu, you can control and change the viewing angle, size, and position of the model.

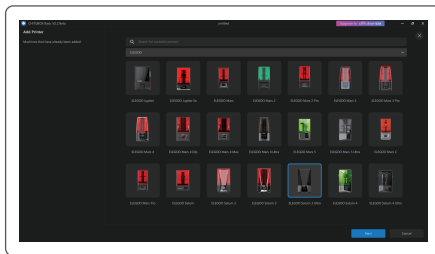
Other Operations:

- 1) Long press the left button and drag the model to the position you want.
- 2) Scroll the mouse wheel to zoom in or zoom out the model.
- 3) Long press the right mouse button to view the different perspectives of the model.

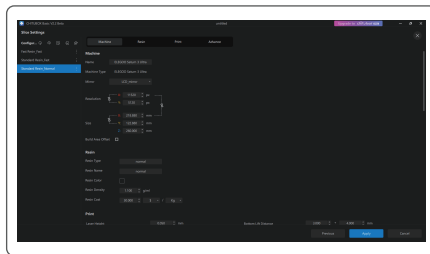
3. CHITUBOX Setting

3.1 Machine Configuration Parameters

Click "Parameter Settings" and select ELEGOO Saturn 3 Ultra as your default printer. (See Picture 10)



(Picture 10)



(Picture 11)

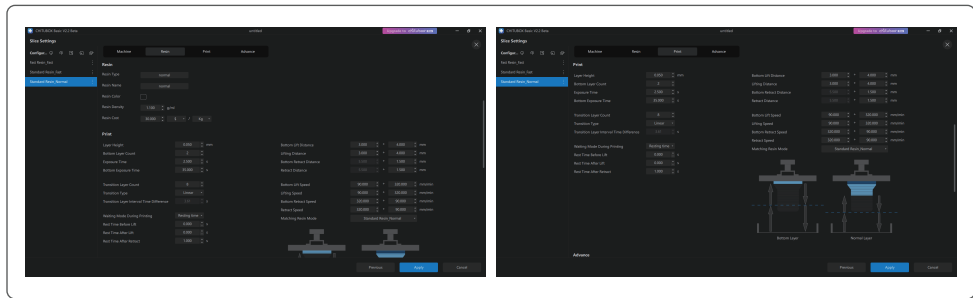
3.2 Build Volume

You don't need to change the default parameters (See Picture 11), and X indicates the maximum print size in the X-axis direction, and so on.

3.3 Resin Parameter (See Picture 12)

Resin Density: 1.1g/ml

Resin Cost: You can input the real price of the resin you purchased, and the slicing software can calculate the resin costs for each model you print.



(Picture 12)

3.4 Parameters (See Picture 12)

Layer Height: The thickness of each printed layer, the recommended height is 0.05mm, but you can set it from 0.01-0.2mm. The higher thickness you set, the longer the exposure time will be required for each layer.

Number of Bottom Layers: The set number of initial printing layers. If the number of bottom layers is n, the exposure time of the first n layers is the exposure time of the bottom layer. The default setting is 2.

Exposure Time: The exposure time for normal printing layers. The default exposure time is 2.5s, the thicker the print layer setting, the longer the time required.

Bottom Layer Exposure Time: The setting of bottom layer exposure time. Properly increasing the bottom layer exposure time can help to increase the bonding strength between the printed model and the printing platform, and the default setting is 35s.

Transition Layers: The number of transition layers after the bottom layers for a tighter bonding between layers. Except for the exposure time, other parameters of the transition layer are the same as the normal layer.

Transition Type: Set the transition type of exposure time when transitioning from bottom layers to normal layers, the default is linear transition.

Rest Time Before Lift: The time difference between the end of the exposure and the start of the build platform moving away from the exposure surface, the default setting is 0 seconds.

Rest Time After Lift: The time difference between the build platform starts to standstill and starts to return after the build platform lift, the default setting is 0 seconds.

Rest Time After Retract: After the build platform moves to the printing surface, the time difference between the build platform starting to stationary and starting to exposure, the default setting is 1 seconds.

Bottom Lift Distance: During the bottom printing process, the distance that the build platform moves away from the printing surface each time, the default setting is 3+4mm.

Lifting Distance: In the normal layer printing process, the distance that the build platform moves away from the printing surface each time, the default setting is 3+4mm.

Bottom Retract Distance: During the bottom printing process, the retract distance of the build platform, please do not change if not necessary.

Retract Distance: In the normal layer printing process, the retract distance of the build platform, please do not change if not necessary.

Bottom Lift Speed: During the bottom printing process, the moving speed of the build platform away from the printing surface each time, the default setting is 90+320mm/min.

Lifting Speed: In the normal layer printing process, the moving speed of the build platform away from the printing surface each time; the default setting is 90+320mm/min.

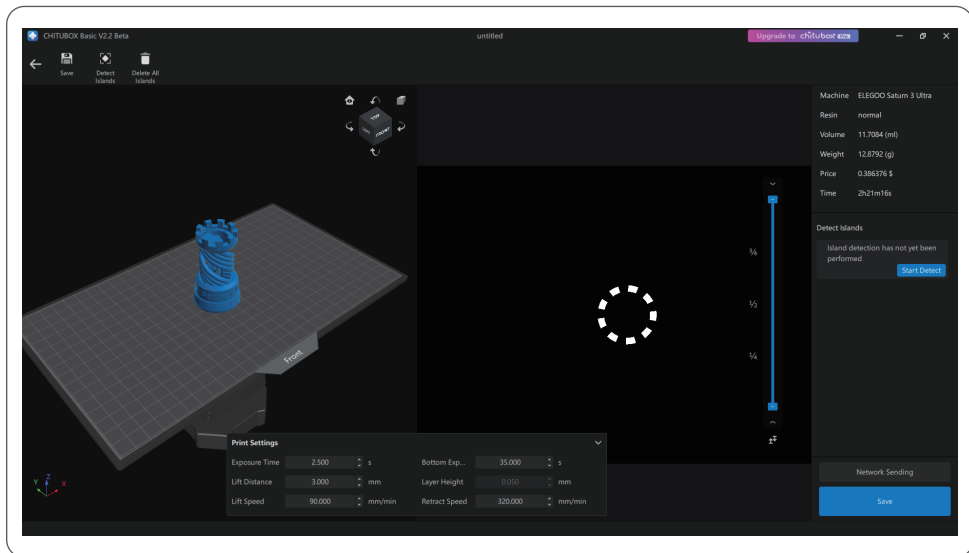
Bottom Retract Speed: During the bottom printing process, the moving speed of the build platform is close to the printing surface; the default setting is 320+90mm/min.

Retract Speed: In the normal layer printing, the moving speed of the build platform is close to the printing surface; the default setting is 320+90mm/min.

Matching Resin Mode: The machine is preset with three slice parameter modes with different speeds for resin printing. According to the resin and printing speed requirements, choose appropriate printing modes. The "Standard Resin_Normal Speed" mode is selected by default.

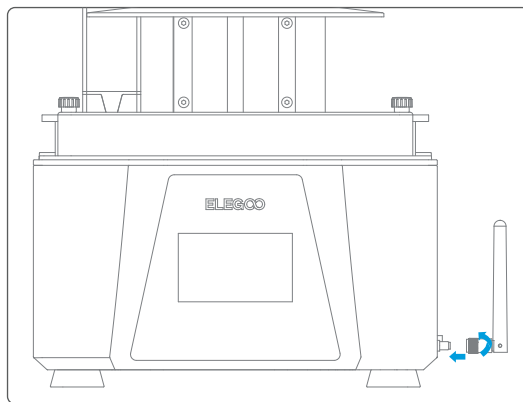
4. Save the Model

After setting up all the parameters, click "Slice", and once it's done, click "Save" to export the sliced file and copy it to U Disk; then insert the U disk into your printer, and start printing. (See [Picture 13](#))



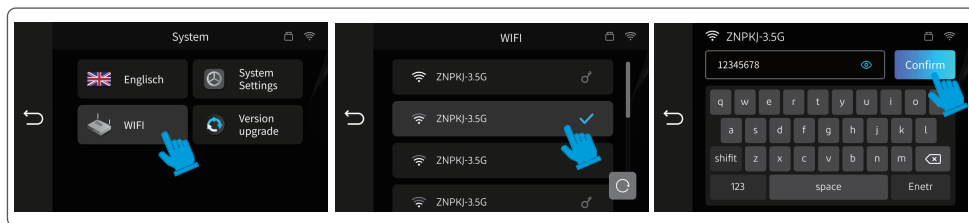
(Picture 13)

1. First, make sure the WiFi antenna is connected. Connect the WiFi antenna by screwing it clockwise to the right port of the machine to connect to the network. (See Picture 14)



(Picture 14)

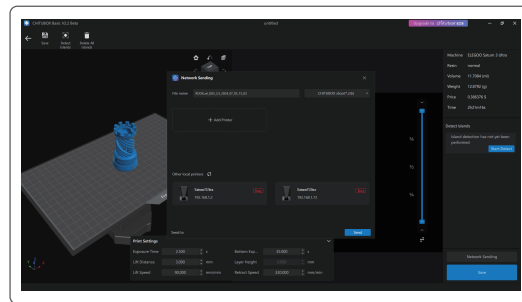
Once the WiFi antenna is installed, click "Settings" - "WiFi" to enable WiFi connection, the machine will automatically search for available networks. Select the WiFi you want to connect to, enter the password, and click "Confirm" to connect to WiFi. (See Picture 15)



(Picture 15)

2. Then make sure that the computer with the slicing software installed is connected to the same WiFi as the printer. After the model is sliced, click the "Network Sending" and the software will automatically search for the printer, select the printer by the printer name and IP address, click "Send" and the sliced file will be automatically transferred to the printer, and you can start printing once the transfer is completed.

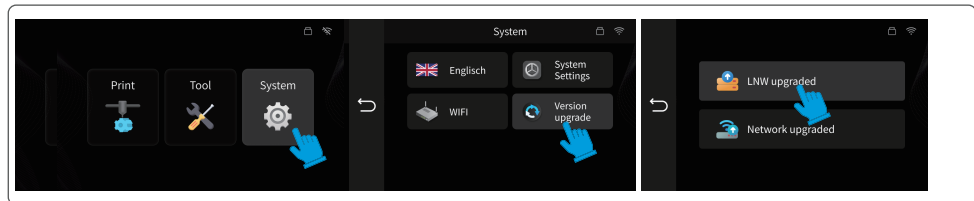
(See Picture 16)



(Picture 16)

3. Firmware Upgrade

(1) For the local upgrade, download the firmware file to the U disk in advance. After the printer is inserted into the U disk, click "System" and then click "Version Upgrade" to select "LNW Upgrade". The firmware version that can be upgraded will be displayed on the page. Click on the firmware to upgrade. (See Picture 17)



(2) Network upgrade is not available yet, please stay tuned.

(Picture 17)

1. Model doesn't stick to the build plate

Bottom layer exposure time is too short, please add more time.

Model bottom has very small contact with the build plate and please add more bottom layers.

2. Model layer breakage

Printer is shaking during printing.

Release liner film is very loose due to long-time usage and need to be changed.

Build plate or resin tank is not fastened.

3. Abnormal Screen Exposure

If your printer doesn't work please contact us at 3dp@elegoo.com.

and as to better help and solve problems for you, please add your order ID in your email.

4. Printing failure

If the model was not completely printed or failed, there might be some residues left in the resin, which can be filtered out using a funnel when you save the rest resin back into its sealed bottle.

If you don't filter out the residues the build plate may cause damage to the LCD screen when you're printing next time.

As to the residual resin on the build plate and tank, you can clean and wipe them up using tissues.

5. Why do I receive an error message for residue detection when starting a print

First, check if the resin tank and build plate are properly secured. Then, try printing again. Avoid touching or causing vibrations to the machine during the self-check process before printing to prevent sensor calibration issues. If the error persists, clean the resin tank or filter the resin for any tiny foreign objects.

6. Why do I get resin insufficient or exceeding maximum volume error when starting a print

At the beginning of the print, the mechanical sensor detects the remaining resin in the tank. To ensure smooth printing, the resin level must be above one-third of the tank volume. Additionally, the resin level should not exceed the MAX line to prevent leakage. If the required resin amount for the model exceeds the current resin level in the tank, a pop-up message will prompt for resin refilling. If you encounter abnormal errors, recalibrate the device through the self-check process. Remember not to touch or vibrate the machine during self-check to avoid affecting sensor calibration.

7. How to adjust the printing speed

The release speed of the printer is fixed, with two modes available: fast and slow. However, regardless of the mode, the first 50 layers are always printed at a slower speed to ensure a higher success rate. The actual printing speed per layer also depends on the settings of the slicing parameters, such as layer thickness, exposure time, and wait time. Changing these parameters will alter the actual printing speed.

8. What should I do if resin leaks into the machine

Due to the nature of tilted release motion, it is not possible to achieve a completely sealed printing area. To address this, we have implemented several protective measures. When the sensor detects resin exceeding the MAX line, the print will stop, and a pop-up window will appear as a warning. There is a groove design below the build plate, where a small amount of leaked resin can flow into without affecting the machine. However, if a significant amount of resin spills occur, please disconnect the power promptly and open the front panel of the machine for cleaning.

- Please do not use sharp or pointy tools to scrape the resin tank to avoid damaging the release liner film.
- Please clean up the resin tank before changing the resin to another color.
- Before and after printing, clean the build plate with paper towels or alcohol to ensure that there are no bumps or burrs on the build plate.
- Before each printing, daily check the exterior of the machine and all mechanical parts for any obvious damage, defects, or abnormalities.
- Try to keep the printing environment at 25-30 degrees Celsius when printing, and ventilate the printing room as much as possible to facilitate heat dissipation of the machine and resin odor volatilization.
- If the Z-axis keeps making friction noise, please add some lubricant to the lead screw. Please check and apply lubricant grease at least every 2-3 months, and increase the frequency of application as the printing frequency increases.
- If you don't use the printer in the next 48 hours, please pour the remaining resin from the resin tank back into the resin bottle and seal it well. If there is any residue, please use a filter to filter it out.
- The release film is a wearing part, please replace it regularly according to the machine prompts to ensure the success rate of printing.
- Please be careful when removing the printing platform to prevent damaging the LCD screen. The service life of the screen is about 2000+ hours and will decrease with increasing printing frequency. Do a good job of daily screen cleaning, and unplug the machine in time after printing. If there is a screen exposure problem or service life has seriously affected the print quality, please replace the screen in time.

● ELEGOO printers are covered by a warranty starting from the date of receipt. The warranty periods for different components may vary. For detailed information, please visit our official website at <https://www.elegoo.com/pages/refund-policy>.

● The free warranty does NOT include problems caused by self-disassembly and improper use, and wear and tear of the machine housing, etc.

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