TECHNICAL GUIDE For Unboxing & Setting Up

&

Troubleshooting Common Issues with Resin 3D Printing

INTRODUCTION

Welcome to the world of chair side INOX permanent printing system. Now you can have a final restoration in a way that is easier and quicker than ever before. This innovative technology aims to provide you with a seamless experience, allowing you to receive the best possible restoration in just a fraction of time, compared to traditinal methods. With its advanced features and precision, this system ensure that your final restoration is of the highest quality providing you with a natural and aesthetically pleasing outcome .
So sit back, relax, and let the wonders of chair side INOX permanent printing system revolutionize your dental experience.

SAFETY WARNINGS AND GUIDELINES

Please read this entire manual before using this device, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

Inox

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- **GUIDELINES**

- ·· 1.The ambient temperature of the equipment is 18~28°C, and the humidity is 40%~60%. If the temperature is too high or too low, the exposure time should beshortened or prolonged

- 2. If the equipment does not have automatic feeding function, please do not add materials too high or too low to the liquid material box. When printing a large-volume model, please pay attention to the use of materials and add appropriate materials.

- 3.The bottom of the liquid material box is a special release film. Please do not use sharp objects to stab, twist or scratch the bottom of the liquid material box, which will lead to the rupture of the release film and can not be used.

- 4.Keep the printing screen clean so as not to affect the light transmission performance.

- 5.Before each printing, check whether there are sundries at the bottom of the liquid cartridge and in the material. If there are sundries, clean them up.You can use the function of "clean" -> on the device control interface to solidify the bottom residue into a layer, and gently remove the residue with a yellow scraper.You can also use the filter funnel every time after filtration back to the liquid box.There is residue in the case of the use of equipment, will be likely to damage the print screen with release film.

- 6.The materials need to be cleaned with alcohol, which is inflammable. Please purchase, use and store alcohol in accordance with local laws and regulations.

- 7. If you need to take out the liquid material box of the printer, please make sure that the molding platform has been removed or the surface of the molding platform is dry, so as to prevent the residual liquid from dripping on the platform and contaminating the printer.

- 8. Ultraviolet light in the natural environment will cause curing reaction of printing materials in the liquid material box. After taking out the model after printing, please cover the printer cover in time and avoid direct sunlight.Pour unused resin into a reserve bottle, not into an unused bottle.

- 9. The printer is an electronic control device and cannot be wiped or cleaned with water.

- 10.The power interface and switch are on the back of the enclosure. The equipment is powered by the power adapter, and the output end of the power adapter is inserted into the power socket on the back of the equipment. When the switch is pressed "I", the machine is in the state of power on. When the switch is pressed "0", the machine is in the state of power off.

- 11.Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device. If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.

- 12.Do not touch the device, the power cord, or any other connected cables with wet hands.

- 13.Do not install this device on an unstable surface where it could fall and cause either personal injury or damage to the device and/or other equipment.

- 14.Do not expose this device to excessively high temperatures. Do not place it in, on, or near heat sources, such as a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.

- 15.Do not place or install this device in an area where it can be exposed to excessive amounts of dust, humidity, oil, smoke, or combustible vapors.

- 16.Use only in a well-ventilated area. Do not use in close, confined spaces.

- 17. Prior to operation, check the unit and power cord for physical damage. Do not use if physical dam age has occurred.

- 18.Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.

- 19.Unplug this device from the power source when not in use.

- 20.Take care to prevent damage to the power cord. Do not allow it to become crimped, pinched, walked on, or become tangled with other cords. Ensure that the power cord does not present a tripping hazard.

- 21. Never unplug the unit by pulling on the power cord. Always grasp the connector head or adapter body.

- 27. This printer has many moving parts. Do not reach inside during printing.

- 22. If any resin or liquid gets into the printer, clean it out immediately.

- 23. Resin may cause skin irritation or allergic skin reactions. When using it with uncured resin, wear gloves such as nitrile or neoprene. Don't Use latex gloves. If the resin gets on your skin, use soap and Warm water.

- 24. When handling liquid resin, removing printed parts, and removing supports from printed parts, wear safety glasses/goggles and face shields. If the resin gets into your eyes, immediately rinse with cold water and then consult a doctor.

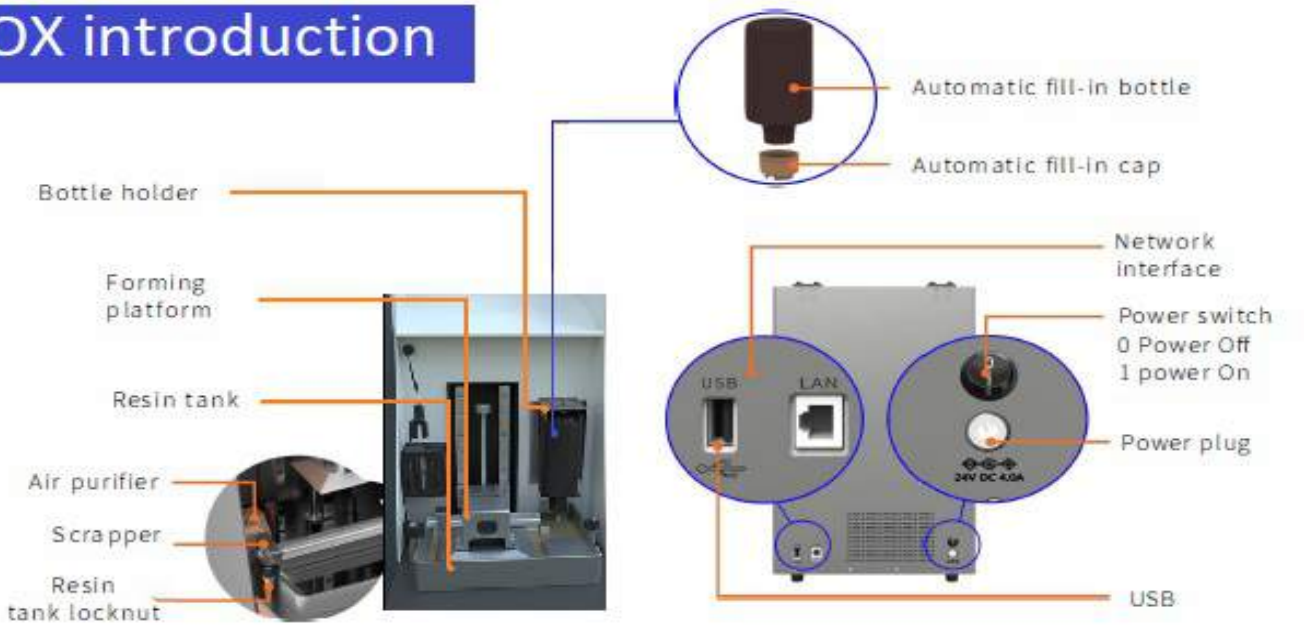
- 25. Ultraviolet rays are harmful to eyes, so please avoid direct contact. When you need to check the ultraviolet rays, please wear safety glasses.

- 26. Clean the resin tank after printing.

- 27. Clean the lid and casing with a non-abrasive microfiber cloth and soapy water or a universal cleaner.Do not use ethanol, if you wipe with ethanol, the acrylic coating may cause cracks,

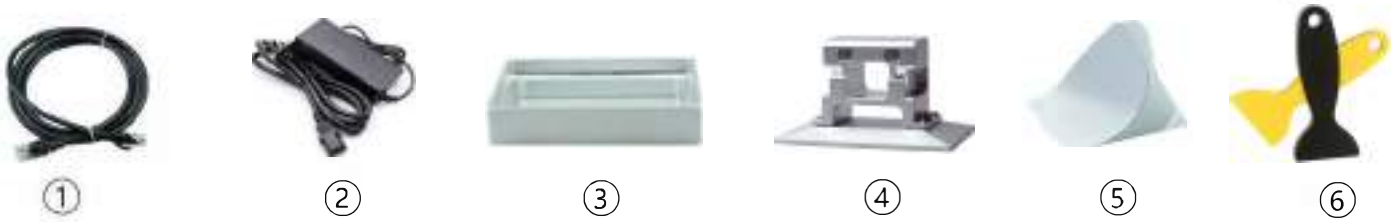
- 28. Please keep out of reach of children.

INOX introduction



Accessories introduction

Name	Usage	Name	Usage
① Network cable	To connect printer and computer	⑦ Plishing sand	To polish the support points
② Power adaptor	DC power supply	⑧ Cleaning bottle	To clean the resin on the surface of model
③ Resin tank	Printing material container	● Cleaning tank	To soak models
④ Forming platform	Platform for model forming	⑩ Stainless scraper	To remove the model after printing finished
● Disposable filter	To filter the residue in resin	● Disposable gloves	To keep hands clean during aftertreatment
⑥ Scraper	To clean the residue in resin tank	● Tools and screws	Sub. screws and 3 Allen key



① ② ③ ④ ⑤ ⑥

⑦ ⑧ ⑨ ⑩ ⑪ ⑫

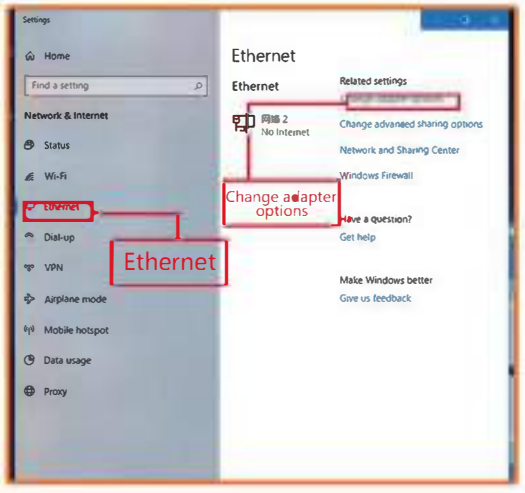
II Device connection

LAN connection

Connect the printer with power

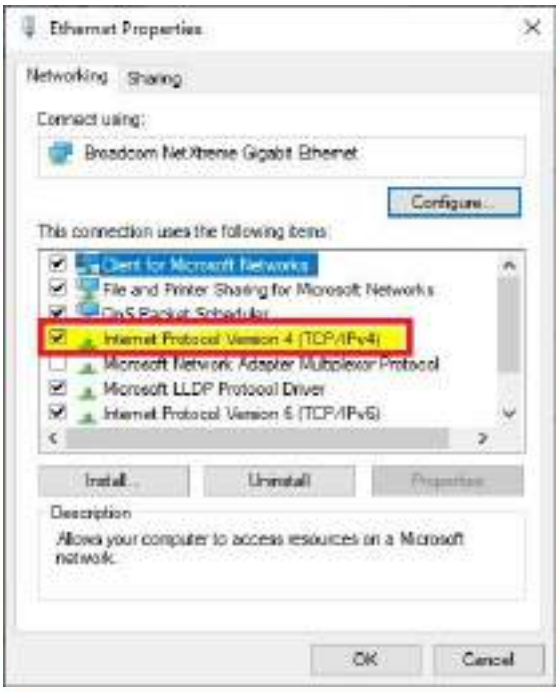
Connect the printer with network cable

Click “Network &Internet setting”



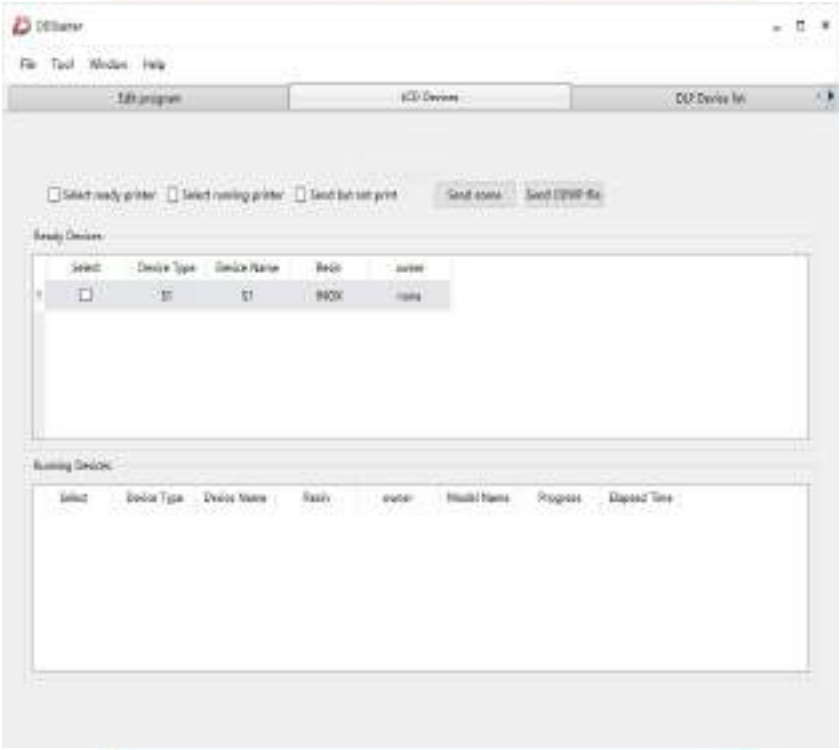
Click” Change adaptor setting” in LAN setting

Choose the LAN connected and click the right button and choose “Properties”



Double click IPv4 for network setting

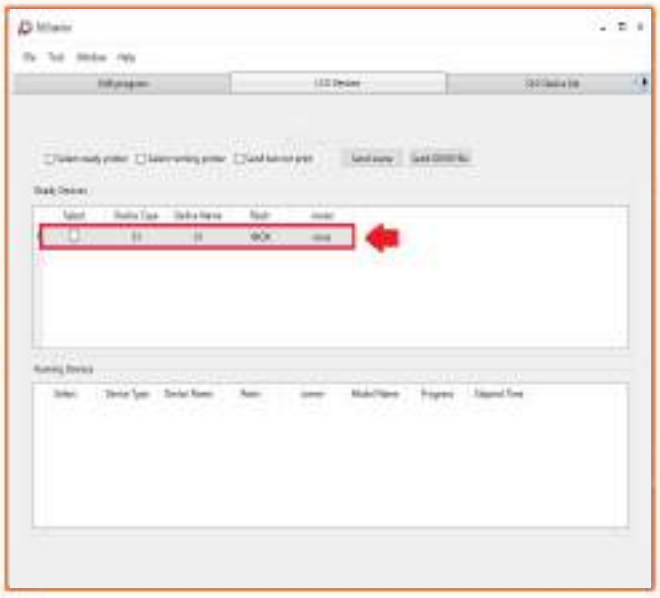
Setting the IP as showed in picture and click "Confirm"



Open the software, if the printer is in the device list, then connection succeeds.

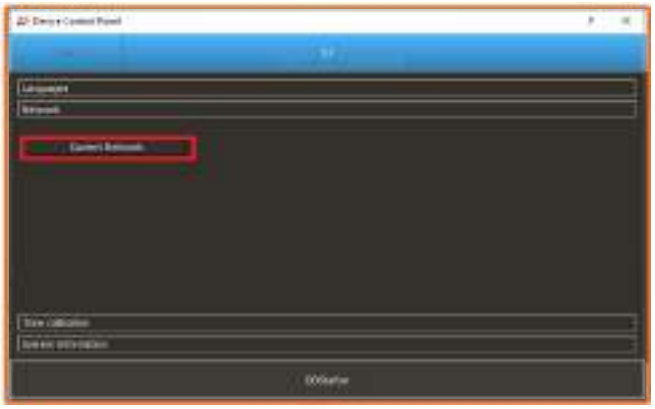
WIFI connection

Connect printer with computer through LAN



Double click any item in “Device information” for device control panel

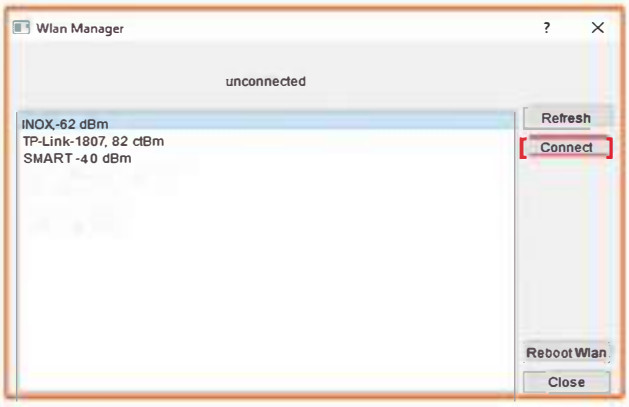
Click for “System settings”



In network setting interface, click

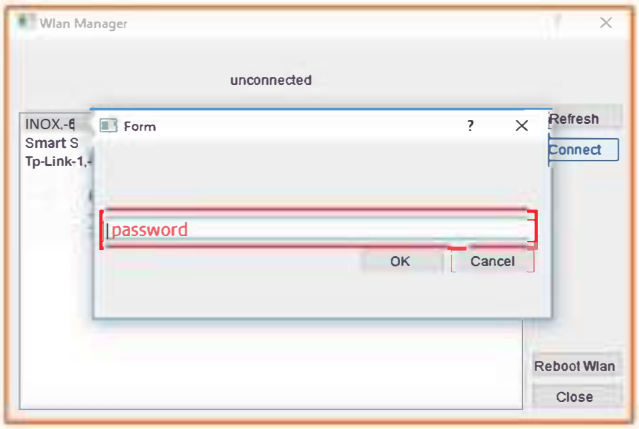
“Current network” for

network setting



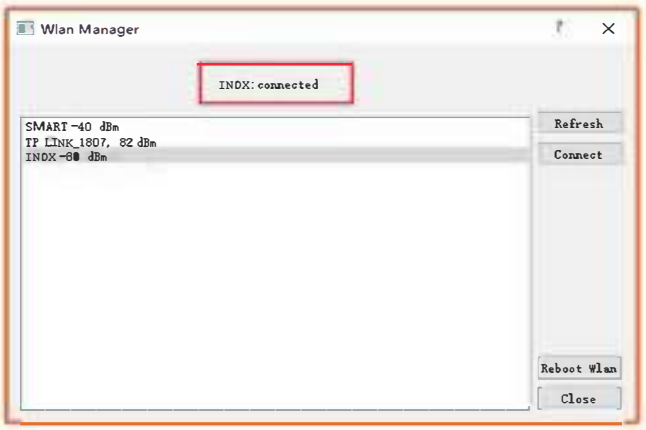
Choose WIFI network and

click “Connect”



Input WIFI password and

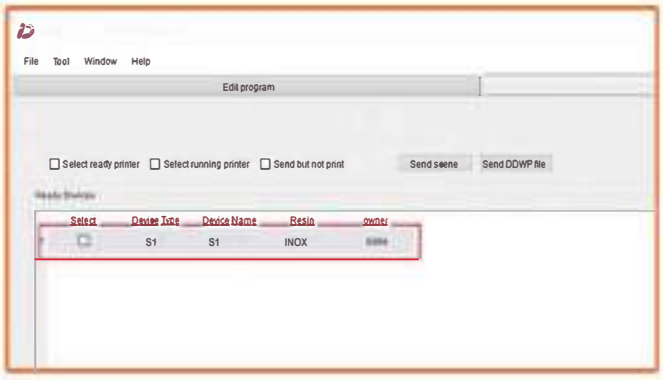
click “Confirm”



WIFI setting succeed when

“connected” shows on top.

(Tips:wait 10 seconds after input password .When the WIFI signal is not good,try more)



Unplug network cable and restart software.

WIFI connect succeed when the printer

shows on the device list.

Connect the printer with PC.
(See the instruction “Device connection” in Part II)

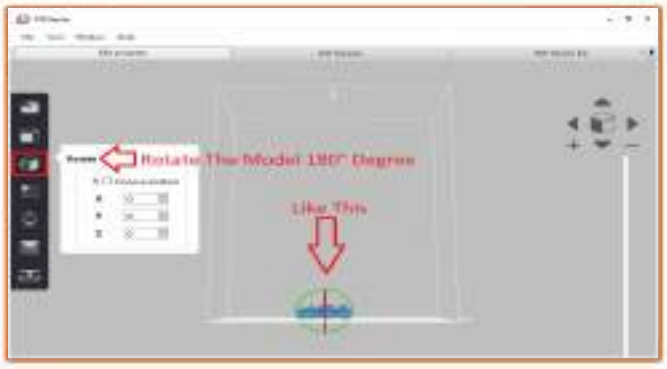
Open the cover box

Loosen the clip on the holder and descend the holder to the bottom.Close the cover when resin flow out of the cap.

Get a resin bottle and change into automatic fill-in cap Assemble the bottle to the holder on the right side.

Build new project in software
Double click on (inox) Printer

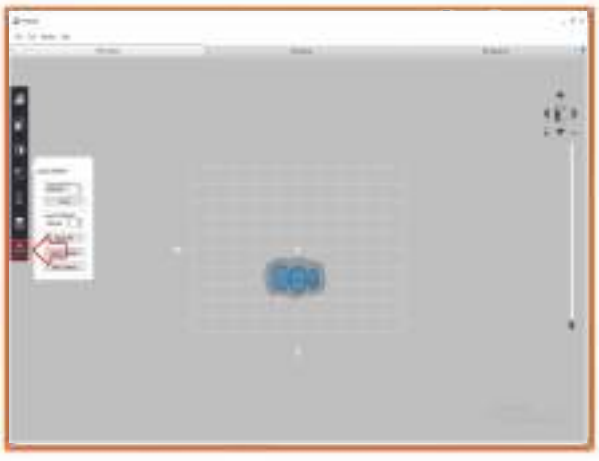
Lead in model for printing.



Rotate The Model

Choose (Layout) to change the place in plateform

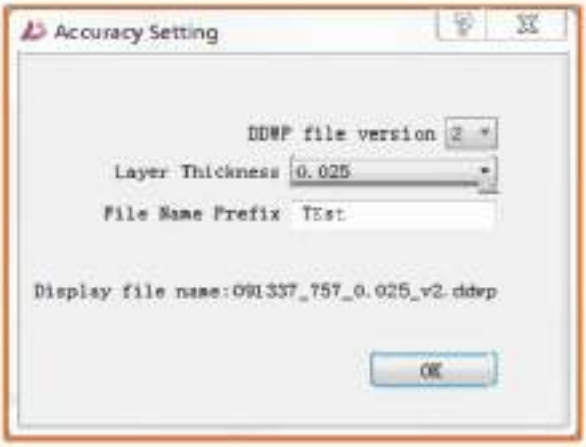
Choose (Genrate Supports)



Click "To send File to Printer"

Click (Send scene)

Mark on select.



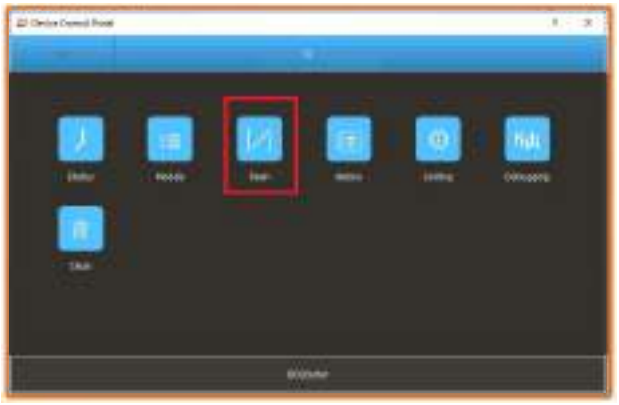
Choose layer thickness and name the task.

• Parameter setting

● Resin parameter

Connect the printer

(Read Part "Printer connection")

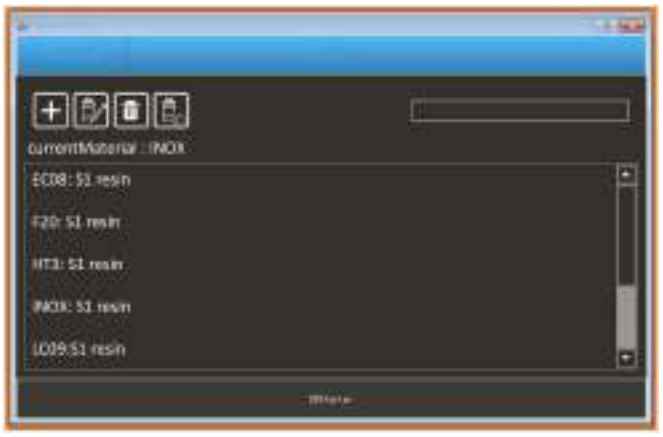


Open device control panel and click” Resin list”

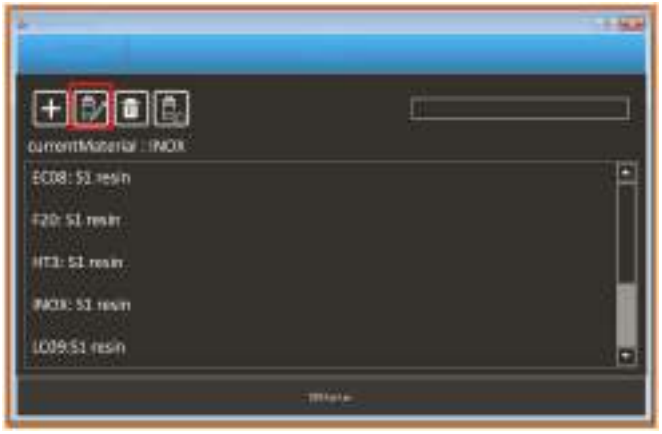
Choose printing data package

(Tips: The data package should match the resin)

Edit resin parameter



Choose the parameter package



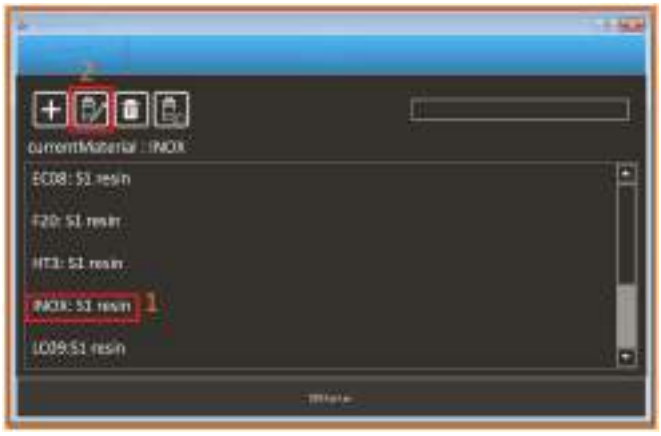
Click “Edit” for resin parameter editing

Click “Save”

Revise the parameter

Scraper settings

Click the resin icon



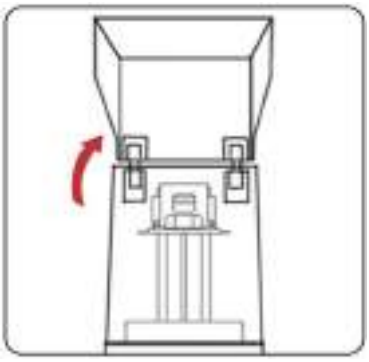
Click the resin you using then click the 2nd icon to edit

Check the functions that you want to turn on, etc X and Y offset and anti-aliasing

Choose the thickness that you want to edit then select the senior parameter

Note：After the scraper parameters turn on, the time spend of printing time will be longer

IV Post-curing

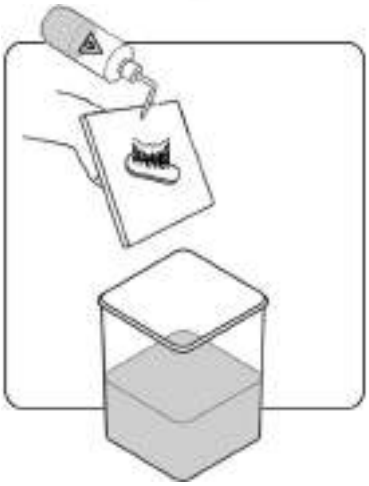


Open the cover box

(Tips: Please wear disposable gloves.)

Take out forming platform

(Tips:Turn the forming platform on the arm to dry it before take it out.)

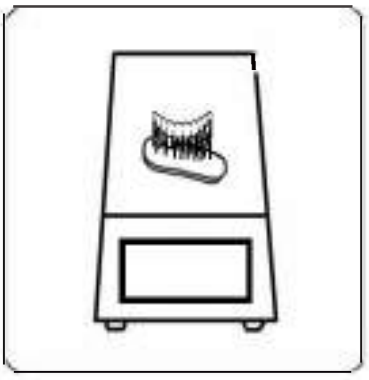


Clean the model with) 95%-99.9% ethanol (alcohol)

(Tips:Postcure the model as required)

Take the model out with shovel from the forming platform.

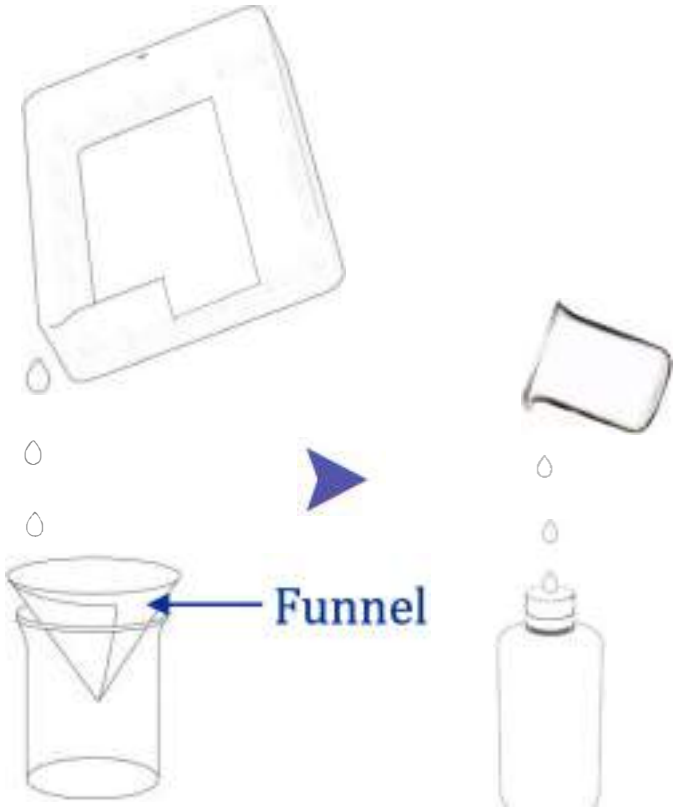
Remove the supports when model is dry



Postcure the model in postcure oven

(Tips:Models could be solidlfied in sunshine. Post-processing procedure is different from different resin.)

[IMPORTANT] Inevitably, in case of incomplete curing or failed prints, there might be some resin residues left in the vat. Then, please filter the resin by a funnel and store the resin in a sealed container. For the residues left in the vat or on the platform, please use paper towel or plastic scrapper to carefully get rid of that.
Before each prints, please ensure there is no solid residues in the vat or on the platform, otherwise the LCD screen may be impacted and broken during printing or leveling.



- Do not left the resin in the vat for over two days if not using it. Please filter and store the resin properly.

- After printing, please clean up the platform (wipe clean with paper towels or wash with alcohol), and ensure no residue left before next print (filter the residue with funnel).

- If the outside of printer is stained with resin, use alcohol to wipe clean.

- To switch the resin , please clean the original resin vat first.

. Troubleshooting Common Issues

INOX 3D printer can produce highly detailed and accurate models, but it also comes with its own set of challenges. Here's an overview of common resin 3D printing issues and how to solve them:

1. Print Not Adhering to the Build Plate

•Issue: The print fails to stick to the build plate, often leading to a failed print or the print sticking to the resin vat instead.
•Causes:
•Improper build plate leveling.
•Insufficient first layer exposure time.
•Dirty build plate.
•Solutions:
•Level the Build Plate: Ensure the build plate is perfectly leveled according to the printer's manual.
•Increase First Layer Exposure: Adjust the exposure time of the first few layers to ensure proper adhesion.
•Clean the Build Plate: Use alcohol to clean the build plate thoroughly before printing.

2. Layer Separation or Delamination

•Issue: Layers of the print separate, resulting in a weak or completely failed print.

•Causes:
•Inadequate layer exposure time.
•Mechanical issues with the printer's Z-axis.
•Solutions:
•Increase Layer Exposure Time: Ensure that each layer is properly cured by increasing the exposure time.
•Check Z-Axis Mechanics: Tighten any loose screws and ensure the Z-axis moves smoothly.

3. Surface Imperfections (e.g., Rough or Textured Surfaces)

• Issue: The print surface is rough, bumpy, or textured, rather than smooth.

• Causes:
• Overexposure or underexposure of resin layers.

• Dirty resin vat or scratched FEP film.

• Insufficient support structures.

• Solutions:

• Optimize Exposure Settings: Fine-tune the exposure settings to match the resin type.

• Clean the Resin Vat: Clean the vat and inspect the FEP film for scratches; replace it if necessary.
• Add Supports: Ensure that the model has enough supports, particularly for overhangs.

4. Warping or Shrinkage

•Issue: Parts of the print are distorted, often pulling up from the build plate or curling at the edges.

•Causes:
•Rapid cooling during the printing process.

•Inadequate support structures or improper model orientation.

•Resin formulation causing excessive shrinkage.

•Solutions:

•Reduce Cooling: Avoid exposing the print to drafts or temperature changes during printing.

•Orient the Model Properly: Adjust the model's orientation to minimize stress points.

•Choose a Different Resin: Some resins are formulated to minimize shrinkage; try using a different type.

5. Print Sticking to the Vat

- Issue: The print sticks to the resin vat instead of the build plate, causing the print to fail.
- Causes:
- Overexposure of the first layers.
- Poor build plate adhesion.
- Damaged or dirty FEP film.
- Solutions:
- Reduce First Layer Exposure: Lower the exposure time for the initial layers.
- Improve Plate Adhesion: Re-level and clean the build plate.
- Inspect and Replace FEP Film: Replace the FEP film if it is scratched or has a cloudy appearance.

6. Incomplete Layers or Missing Sections

- Issue: The print has missing layers or incomplete sections, leading to a structurally unsound or aesthetically flawed print.
- Causes:
- Insufficient resin in the vat.
- Mechanical issues with the printer.
- Inadequate exposure time.
- Solutions:
- Ensure Adequate Resin Levels: Check the resin level before starting the print.
- Inspect Printer Mechanics: Look for obstructions or issues with the Z-axis movement.
- Increase Exposure Time: Adjust the exposure time to ensure all layers cure properly.

7. Resin Clouding or Curing in the V

- *Issue: Resin starts to cure inside the vat, leading to cloud resin or cured spots.*
- *auses:*
- *Excessive exposure time causing unintended curing*
- *UV light leaks or ambient light exposure*
- *Solutions*
- *Reduce Exposure Time: Lower the exposure time to prevent cur ng in the vat.*
- *Shield the Vat: En ure that the resin vat is shielded from any ambient light sources that might cause premature curing.*

Preventative Maintenance Tips:

- *Regular Cleaning: Keep the build plate, vat, and printer com onents clean to avoid contamination and ensure smooth operation.*
- *Test Prints: Run test prints to dial in settings when switch ng to a new resin or adjusting environmental conditions.*
- *Proper Storage: Store resin in a cool, dark place to prolong its shelf life and maintain its quality.*

By identifying the root cause of these issues and implementing the appropriate solutions, you can significantly improve the quality

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To save or protect the LCD screen of a 3D printer here are some practical tips:

- ***1. Use a Screen Protector****

• Apply a screen protector designed specifically for your printer model. This helps shield the LCD from scratches, resin spills, and dust.

- ***2. Clean Regularly****

- Clean the screen gently with a microfiber cloth and a small amount of alcohol to remove any resin residue or dust. Avoid using harsh chemicals or excessive force.

- ***3. Avoid Direct Sunlight****

- Keep the printer and its screen away from direct sunlight, as UV light can degrade the screen over time.

- ***4. Handle with Care****

- When cleaning or maintaining the printer, handle the screen with care. Avoid pressing too hard, as the LCD screens on 3D printers are typically fragile.

- **5. Avoid Overheating***

- Ensure proper ventilation around the printer to prevent the screen from overheating, which could cause damage or shorten its lifespan.

- ***6. Regularly Check for Leaks****

- Inspect the printer regularly for any signs of resin leaks, which can damage the screen if not addressed promptly.

- ***7. Use Quality Resin****

- Always use high-quality, compatible resin. Low-quality resin can have impurities that might damage the screen over time.

- ***8. Proper Storage****

- If you're not using the printer for an extended period, cover it with a dust cover or store it in a protective case to keep dust and debris off the screen.

Taking these precautions will help extend the life of your LCD screen and ensure your 3D printer continues to produce high-quality prints.