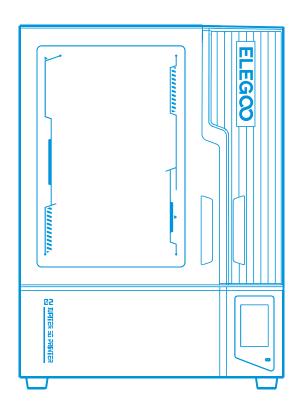


# Jupiter 23D Printer



# 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.)



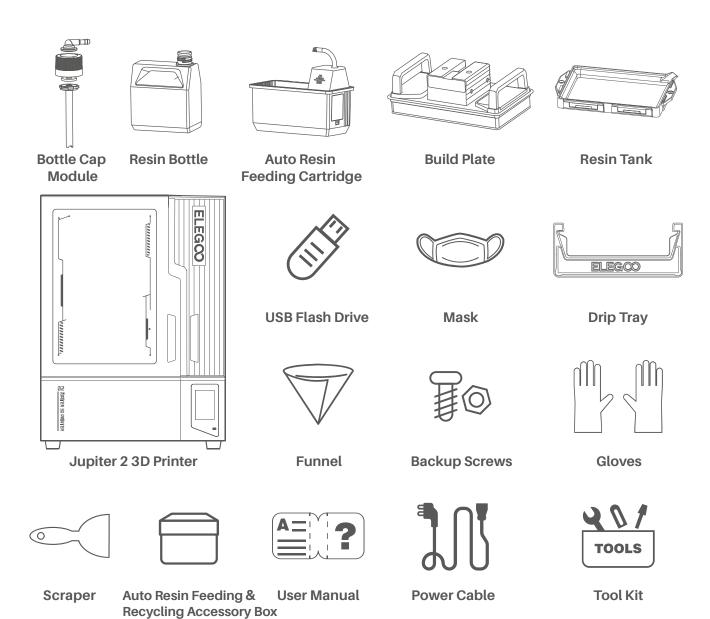
#### Notice

- Please keep the 3D printer and its accessories out of the reach of children.
- Please fill the resin tank to just below the MAX line. Do not exceed the MAX line.
- 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, 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.

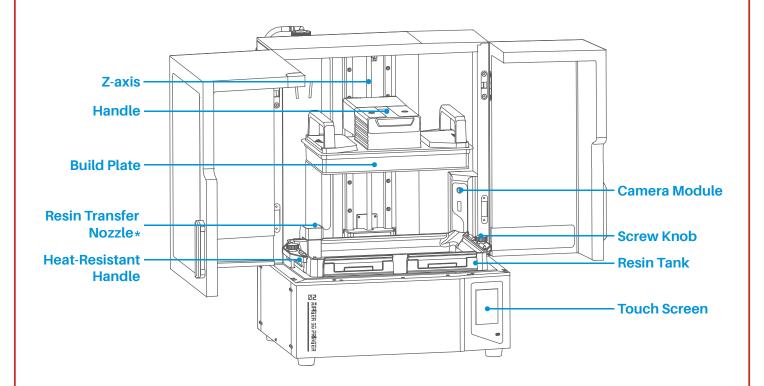
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Packing List 01

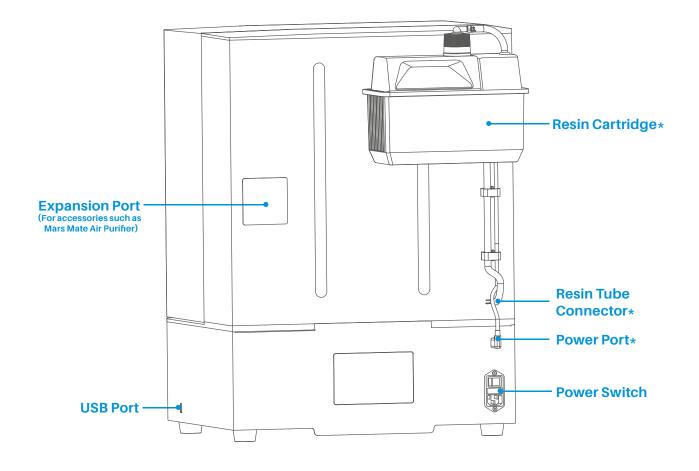


Printer Introduction 02



\*Part of the Automatic Resin Feeding and Recycling System.

Printer Introduction 03



# **Printing Parameter**

- System: EL3D-4.0
- Operation: 4.0-inch Capacitive Touch Screen
- Slicer Software: ELEGOO SatelLite
- ■Connectivity: USB Interface & WiFi
- Camera: 1,280 × 720 Resolution

# **Hardware Specification**

- Printer Dimensions: 465 mm (L) × 508.1 mm (W) × 648.1 mm (H)
- Build Volume: 302.4 mm (L) × 161.98 mm (W) × 300 mm (H)
- Package Size: 710 mm (L) × 575 mm (W) × 490 mm (H)
- Gross Weight: 35.8 kg
- Net Weight: 28.9 kg

# **Printing Specification**

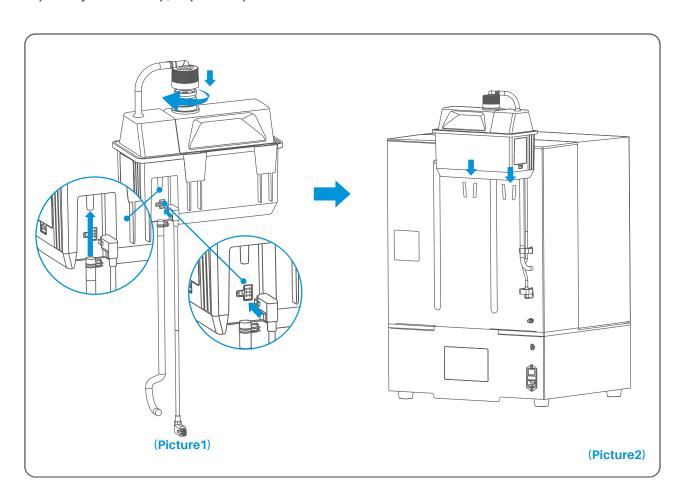
- Technology: MSLA Stereolithography
- Light Source: COB Light Source +

Fresnel Collimating Lens (wavelength 405nm)

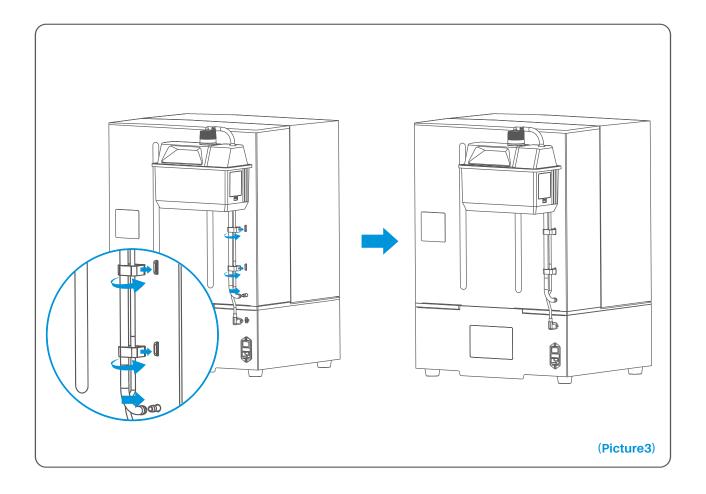
- ●XY Resolution: 20 × 26um (15,120 × 6,230)
- ●Z-axis Accuracy: 0.02 mm
- Layer Thickness: 0.01 0.2 mm
- Printing Speed: 1-3s/layer (0.05 mm)
- Power Requirements: 100-240 VAC, 50/60 Hz, 24V12.5A

#### 1. Automatic Resin Feeding and Recycling Module

Unpack the machine and take out the resin cartridge and accessories. Connect the resin tube and power cable to the module (see Picture 1). Align the module with the two mounting slots at the back of the machine and slide it down until it clicks into place (see Picture 2). (Note: If you prefer to place the resin cartridge separately on a tabletop, skip this step.)

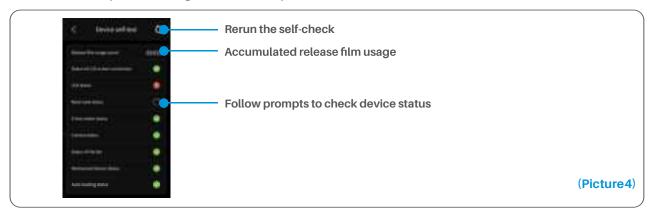


After that, connect the other ends of the resin tube and power cable to their corresponding ports on the back panel. Finally, use cable ties to secure the tube and cable to the designated mounting points (see Picture 3).

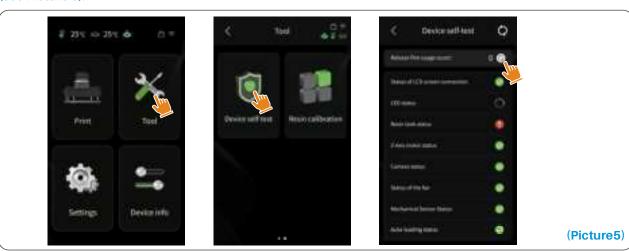


Device Self-Check 07

Note: Upon startup, the printer conducts a self-check of key hardware components to prevent printing failures due to hardware malfunctions. Please refer to the error prompts on the machine to troubleshoot the printer. Do not touch the printer during the self-check process (see Picture 4).



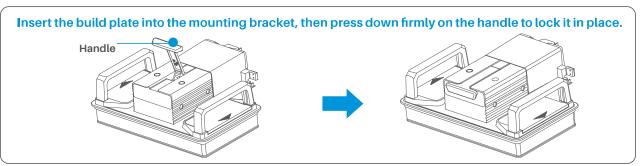
When the release film usage approaches 60,000 cycles, the device will notify you to replace it promptly. After replacing the film, click the refresh button on the device's self-test page to reset the usage counter (see Picture 5).



Test Printing 08

#### 1. Preparation for Printing

Before first use, remove the protective films from the bottom of the build plate and the resin tank.

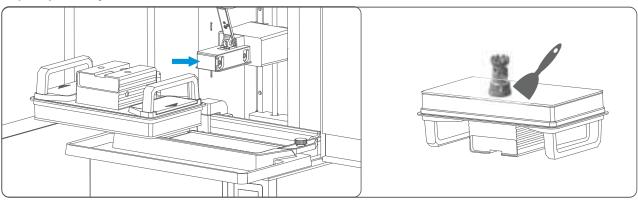


#### 2. Model Printing

Enable the "Auto-feeding" function to prepare the resin transfer nozzle for dispensing. Slowly add resin to the tank, filling it to near the MAX line, but do not exceed it. (The device will perform a self-check before printing. Do not touch the machine during this this process.) Close the printer door, and select the pre-sliced test model to begin printing.

#### 3. Model Processing

Once printing is finished, insert the drip tray parallel to the resin tank until it is fully seated. This will catch any excess resin when you remove the build plate. Lift the handle to release the build plate, then use the provided scraper to detach the model. For optimal results, we recommend using the ELEGO washing and curing station to post-process your model.



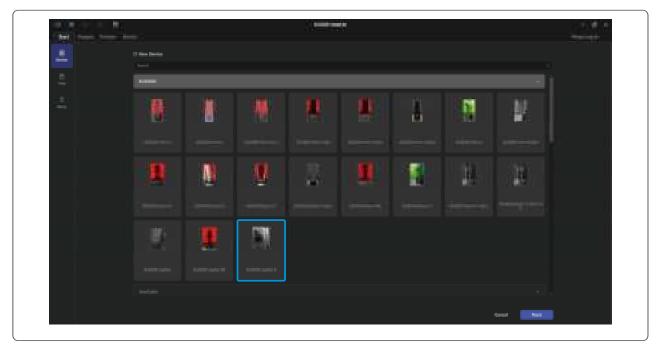
The printer works seamlessly with ELEGOO SatelLite slicing software, which can be found on the included USB drive.

#### 1. Installing ELEGOO SatelLite

You can install the ELEGOO SatelLite slicing software directly from the USB drive, or download it from the ELEGOO official website (www.elegoo.com).

#### 2. How to Use ELEGOO SatelLite (See Picture 6)

Once installed, run the ELEGOO SatelLite software. Select ELEGOO Jupiter 2 as your default printer. Click "Next" to configure your slicing settings.



#### (Picture6)

#### 3. ELEGOO SatelLite Settings

#### **3.1 Printer Configuration Parameters**

After entering the "Slicing Settings" page, the default machine parameters generally do not require modification (see Picture 7). "X" represents the maximum printing size in the X-axis direction, and so on for the other axes.

#### 3.2 Resin Parameters

Resin Presets: In the upper-left Configuration List, Click to open the Official Resin Library (see Picture 8). Choose your resin, then click "Load Selected" to automatically apply its preset slicing parameters (see Picture 9). Presets

Resin Density: 1.15 g/ml

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





(Picture7)

(Picture8)





(Picture9)

(Picture10)

#### 3.3 Slicing Parameters (See Picture 10)

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

Transition Layer Count: 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 those for the normal layer.

**Printing Modes:** The printer offers three preset printing modes. Select a mode based on your model and desired printing speed. The default mode is "Static Mode."

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

Exposure Time: The exposure time for normal printing layers. The default exposure time is 2.5 seconds, and the thicker the printing layer setting is; the longer time it will take.

Wait Before Cure: 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.

Wait After Cure: The time difference between the end of the exposure and the start of the build platform to leave the printing surface; the default setting is 0 seconds

Wait After Lift: After the printing platform is lifted, the time difference between the printing platform starts to stationary and starts to return; the default setting is 1 seconds.

Bottom Lift Distance: During the bottom printing process, the distance that the build platform leaves the printing surface each time; the default setting is 3+5 mm.

Lifting Distance: In the normal layer printing process, the distance that the build platform leaves the printing surface each time; the default setting is 3+5 mm.

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 80+350 mm/min.

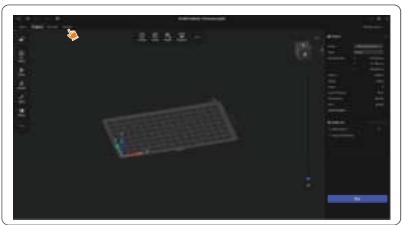
Lifting Speed: In the normal layer printing process, the moving speed of the build platform away from the printing surface each time; the default setting is 80+350 mm/min.

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 350+80 mm/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 350+80 mm/min.

Note: The printing parameters listed in this manual are for reference only. In actual applications, please contact the official after-sales technical support to confirm the parameters based on comprehensive factors such as the machine model and resin (including type and color) used by the individual.

1. Open the slicing software and click "Device" in the top left corner to enter the device management center (see Picture 11).



(Picture11)

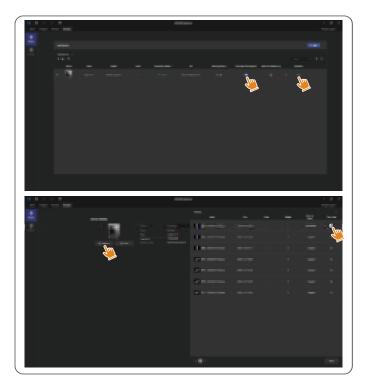
2. After entering the device management center, click "Add Device" to associate the printer (make sure the computer and printer are in the same LAN). After associating the device, you can remotely control it through the software (see Picture 12).



(Picture12)

Camera 13

1. In the printer management interface, you can use the camera to monitor printing in real-time. You can also enable time-lapse photography function before starting a print. In the printing record, you can view and export the generated time-lapse video (see Picture 13).



(Picture13)

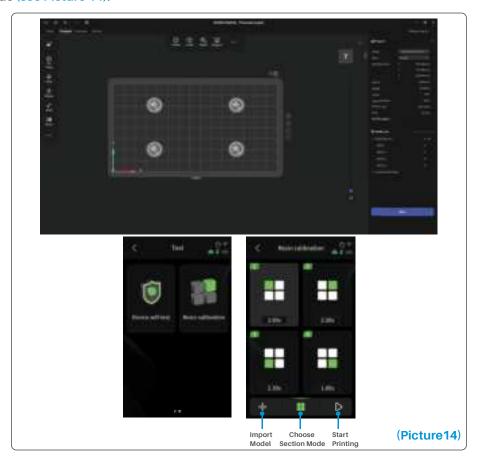
#### **Notes:**

1. Time-lapse photography can only be used when the model height exceeds 50 mm. Time-lapse recording starts at 40 mm height and requires additional processing time after the print is completed in order to generate the time-lapse videos. The processing time is directly proportional to the model height.

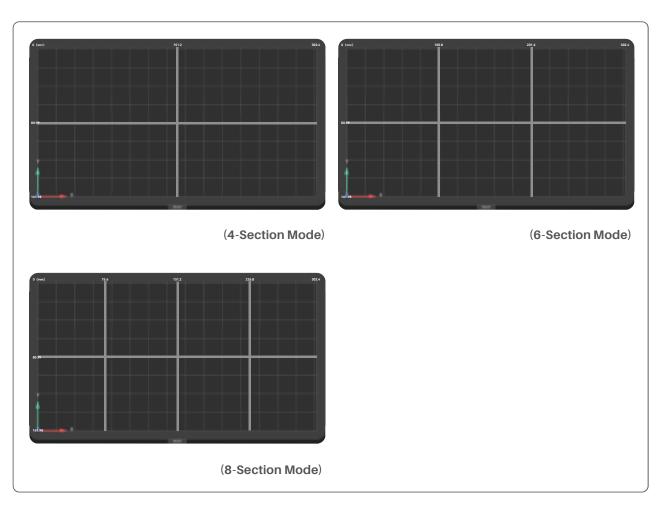
2. The device can store up to 20 time-lapse videos. Once the storage is full, the videos will be automatically replaced in the order they were generated. Therefore, please download your time-lapse videos promptly.

Resin Calibration 14

Choose the appropriate section mode for the model (the screen exposure area will be divided into 4, 6, or 8 equal sections depending on the selected mode). Click the "+" button to import the sliced model (please ensure that the model is not placed on the section boundaries, refer to Picture 15 for the section positions). Set the exposure time for each section, starting from Zone 1 (the exposure times for each section should be set in a decreasing or equal manner). Click "Start" to begin printing. You can determine the optimal resin exposure parameters based on the printing results. The following example demonstrates the use of a 4-section mode (see Picture 14).



Resin Calibration 15



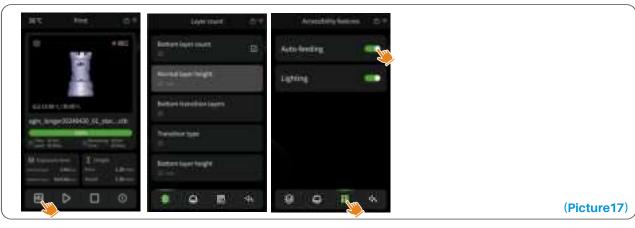
(Picture15)

#### 2. Instructions for Use

2.1 Before starting a print, ensure the resin transfer nozzle is correctly positioned for automatic operation. Check the resin bottle to confirm it contains an adequate supply of resin. This system allows for both automatic resin feeding and recycling. Access these features by navigating to "Settings" > "Accessibility features." Here, you can toggle the "Auto-feeding" and "Resin recycling" functions on or off (see Picture 16).



When "Auto-feeding" is enabled, the module will automatically dispense more resin if it detects a low resin level during the printing process. You can enable or disable this feature on the "Settings" page (see Picture 17).

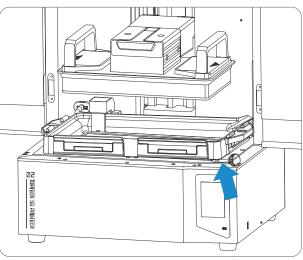


2.2 To recycle resin, go to "Settings" > "Accessibility features" and enable the "Resin recycling" function. The nozzle will move to the bottom of the resin tank and begin recycling resin until the resin bottle is full. The process will then stop automatically. If there is still a significant amount of resin in the tank, replace the resin bottle and repeat the recycling process (see Picture 18).



(Picture18)

During the resin recycling process, if there is a small amount of resin remains in the tank and cannot be recycled, tilt the tank slightly by placing the screw knob end under the tank at the indicated arrow position to fully recycle the resin (see Picture 19).



(Picture19)

#### **Notes:**

- 1. The module can only automatically add resin during printing and can only recycle resin when not printing.
- 2. If an exclamation mark "!" appears on the printer's self-check screen, please check that the power cable is properly connected.
- 3. During printing, if the resin bottle is running low, replace it immediately to ensure uninterrupted printing with the automatic feeding system.
- 4. If you receive a pop-up message indicating that the resin tank is not properly installed or the resin transfer nozzle is not positioned correctly, carefully follow the on-screen instructions to resolve these issues before proceeding.

Manual Leveling 19

If you experience print failures like models detaching from the build plate or corners warping, it's necessary to use the "Manual Leveling" function to check and adjust the leveling. Before proceeding, remove the resin tank and ensure that there are no foreign objects on the LCD screen or build plate.

1. Build Plate is Already Leveled

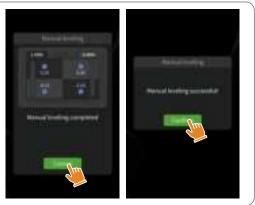
Securely install the build plate, ensuring that there are no foreign objects on the build plate or the LCD screen. Go to "Settings" > "Accessibility features" > "Manual leveling" to enter the manual leveling interface. Follow the on-screen prompts and click "Next" to proceed (see Picture 20).



(Picture20)

If the build plate is already properly leveled, you'll see a "Manual leveling completed" message. Continue to follow the on-screen prompts and click "Confirm" to finalize the leveling check and return to the main

interface (see Picture 21).

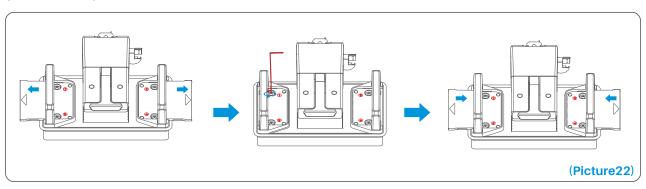


(Picture21)

Manual Leveling 20

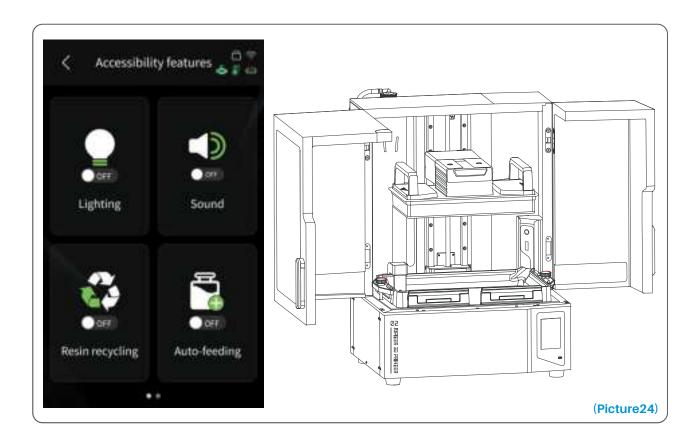
#### 2. Build Plate is Not Leveled

When you enter the manual leveling interface, if you see the message "Turn the screws as instructed. Make sure the difference between diagonal screws is within 3.5N, and the gap between the highest and lowest values of the four screws is also within 7N," it indicates that the build plate is not level and requires manual adjustment. Follow the on-screen prompts to rotate the two diagonal screws (red highlighted) to the appropriate values (see Picture 22). When the values for all four corner screws on the build plate pass the check, leveling is complete. The system will display a "Manual leveling completed" message. Follow the onscreen prompts and click "Confirm" to finalize the leveling check and return to the main interface (see Picture 23).





- 1. Activate the lighting feature in low-light conditions to assist the camera in capturing clear images.
- 2. Adjust sound preferences manually on the accessibility features page.
- 3. When printing in lower temperatures, use the tank heating function to preheat the resin before printing.
- 4. Enable the resin preheating function to promptly heat the resin in the tank, preparing it to the ideal temperature for seamless printing when needed. The resin can be kept at the desired temperature for up to 24 hours, after which the heating process will automatically stop (see Picture 24).



#### 1. Local Upgrade

Download the local upgrade firmware package file to a USB flash drive in advance. Insert the USB flash drive into the printer, click "Settings," then click "Version upgrade," and select "Local upgrade." Select the version to upgrade and click "Confirm" to start the upgrade (see Picture 25).





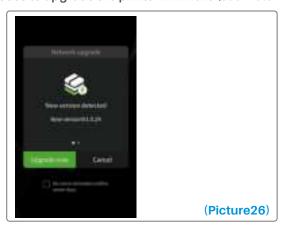




(Picture25)

#### 2.Network Upgrade

When the printer is connected to the network after startup, a pop-up prompt will appear if there are firmware updates available. You can choose to upgrade the printer firmware (see Picture 26).



#### I. Automatic Resin Feeding Not Working During Printing

- 1. Confirm that the "Auto-feeding" function is enabled in the printer's settings.
- 2. Ensure the power cable is securely connected. Try unplugging and re-plugging the cable. A successful device self-check after re-connecting indicates a proper power connection.
- 3. Check if the probes are mistakenly connected together. Automatic feeding should initiate when the resin level drops below the probes.

#### II. "Resin Bottle Empty" Error Despite a Full Bottle

- 1. Ensure the terminals for the liquid level sensor are securely plugged in and not damaged.
- 2. Ensure the gap between the resin bottle and the module's detection surface is not excessive.
- 3. The system may not support the resin being used. Try a different resin.

#### III. Resin Tank Overfilling - System Keeps Adding Resin Even When Full

- 1. The transfer nozzle must be correctly and fully seated to allow the probes to accurately sense the resin level in the tank.
- 2. If the resin level exceeds the probes and continues past the "MAX" line without stopping, the system may not support this particular resin. Try a different resin.

#### IV. Resin Recycling Not Functioning

- 1. Ensure the power cable is securely connected. Try unplugging and re-plugging the cable. A successful device self-check after re-connecting indicates a proper power connection.
- 2. Ensure the terminals for the liquid level sensor are securely plugged in and not damaged.
- 3. The system may not support the resin being used. Try a different resin.

#### V. Resin Bottle Overfilling During Recycling

- 1. Ensure the terminals for the liquid level sensor are securely plugged in and not damaged.
- 2. Ensure the gap between the resin bottle and the module's detection surface is not excessive.
- 3. The system may not support the resin being used. Try a different resin.

- Please do not use sharp or pointy tools to scrape the resin tank to avoid damaging the release 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 °C 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.
- Regularly clean the contact points at both the bottom of the resin tank and the corresponding machine locations to ensure smooth operation of the tank heating function and prevent damage to the machine.



# **FCC Warning**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- -Reorient or relocate the receiving antenna.
- -Increase the separation between the equipment and receiver.
- -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - -Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.