

Alpha Series

3D Printer

User Manual for Hardware

Version 1.3



REVISION HISTORY

Date	Revision	Changes and Additions	Page	By
03/30/2023	1.0	First Draft	All	All
04/06/2023	1.1	Updated the new adapter image	Page 7	All
04/20/2023	1.2	1. Updated the new picker base image. 2. Add Product Certifications	Page 5 Page 8 Page 10 Page 11	All
05/26/2023	1.3	Added Silicone Spatula to the accessory box	Page 7	Sarah

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1. Product Information

1.1 Instructions for Use

Please read through the following **Instructions** before you start using your printer.

- (1) Ensure there's no residuals inside the resin tank and the glass is well setup before printing.
- (2) Avoid print at center point with a single object or small parts repeatedly, it may damage the resin tank.

1.2 Regulatory Statements

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.





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

1.3 Product Certifications

Description	Mark
FCC Declaration of Conformity logo mark for Class B equipment.	
The product has been tested by UL to nationally recognized safety and sustainability standards	
CE mark. Declaring compliance to European Union (EU) EMC directive, Low Voltage directive, and RoHS directive	
Separate collection for waste electrical and electronic equipment.	

1.4 Safety Precautions

Please read through the following Safety Precautions before you start using your printer.



- (1) Use only the power adapter and accessories provided by the manufacturer.
- (2) Before plugging the power adapter into an electrical outlet, verify the local power rating conforms with the specified voltage and frequency.
- (3) This printer needs a grounded, 1-phase electrical power source.
- (4) Make sure power and communication cables are well managed to prevent from tripping.
- (5) Only use resins supplied by MiiCraft manufacturer. Use of other resins may cause printing job failure.
- (6) Do not expose the resin tank to direct light source because the resin will solidify under UV light.
- (7) Chemical substances like resin may cause skin irritation, please read the guidelines in Material Safety Data Sheet (MSDS) of the resin supplied by manufacturer. It is recommended to wear gloves when necessary.
- (8) When moving the printer for a long distance, be sure to withdraw the remaining resin in reaction tank and clean the tank in advance to prevent from resin overflow.
- (9) Keep door closed during printing or curing to prevent UV leakage.
- (10) UV light may cause injury of eyes, do not stare into the printer directly when it is in operation. It is recommended to wear UV protective glasses during operating the printer.
- (11) Place the device on a level surface and keep the printer in an upright position at all times.
- (12) Do not store the printer in extreme hot and cold temperatures.
- (13) Do not disassemble or repair the device yourself. Doing so may cause device malfunction or danger.
- (14) Warning: Picker is hazardous moving parts in MiiCraft Printer. Keep hands away from picker's motion path.
- (15) Emergency shut down method: Press Power Button and hold 3 seconds to shut down.
- (16) This product is designed for specific application and needs to be installed by a qualified personal who has 3D printer and related rule knowledge. A qualified person understands the requirements and risks involved with installing electrical equipment in accordance with national codes.

1.5 General Information

Product Name	Alpha Series
Power Input	100~240V AC, 50Hz/60Hz
Adapter	DC 19.5V/6.7A
Wavelength	405nm
Printer Dimension W x D x H	40 x 30 x 47 mm
Package Size and Weight	62 x 62 x 75 cm / 22 kg (Including pallet)
Operating Temperature	10° to 30°
Humidity (RH)	40% to 60% Our printer should keep in dry conditions
Storage of Printing Material	Store the materials at ambient temperature from 15° to 28° And do not exposure to the light, otherwise resin may solidified

- Liability: We will not hold the responsibility for damages of the machine or injuries on the operator in case user do not follow the user guide instruction.
- Repair can only be carried out by authorized person of MiiCraft.

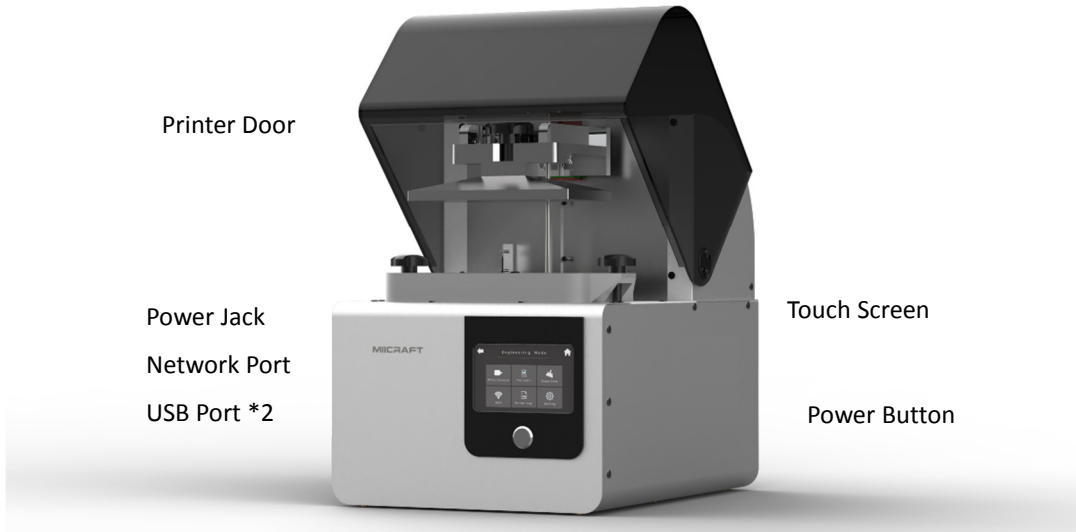
1.6 Package Contents

There is a printer and an accessory box inside the package. As soon as you receive our products, please verify its content and check if there's any exterior damage due to transportation.

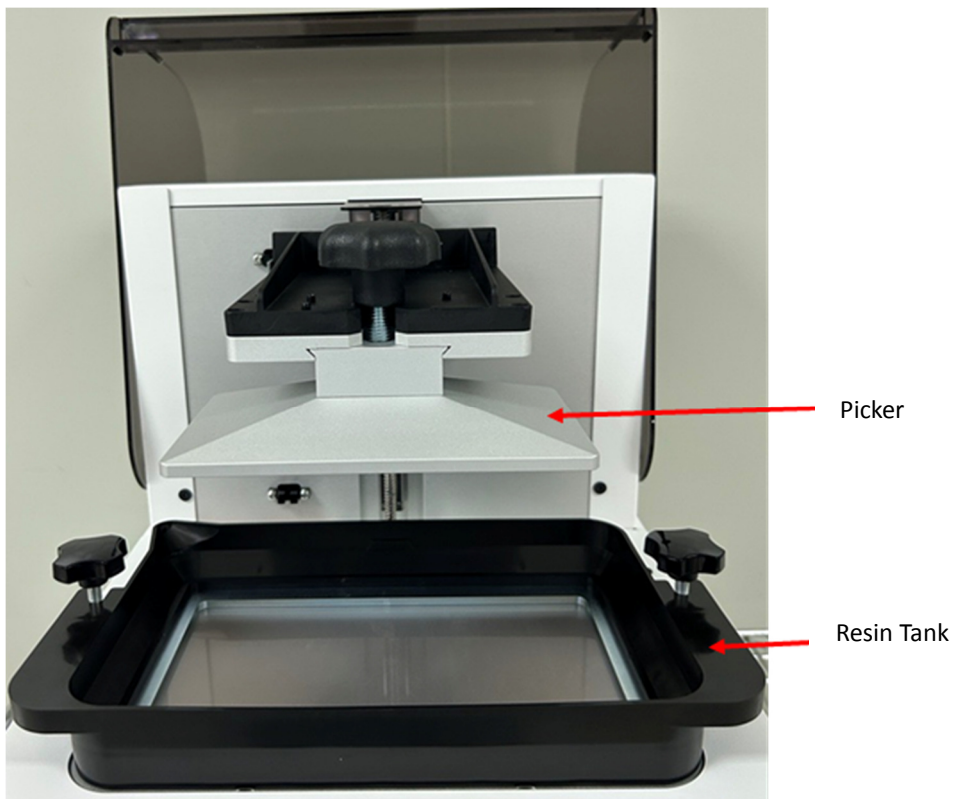


1.7 Product Overview

Front View



Inside View



2. Setting up your 3D printer - Hardware

2.1 Location

Ensure your Alpha printer is placed on a flat table top with access to mains electricity. Avoid sunlight direct as this will degrade material left in the machine.

WARNING Dust pollution will cause printing failure. Do not place your printer in dusty environment, such as zirconia milling workplace.

WARNING Printer net weighs at least 20 kilograms. Please be careful, and use proper lifting techniques to avoid injury.

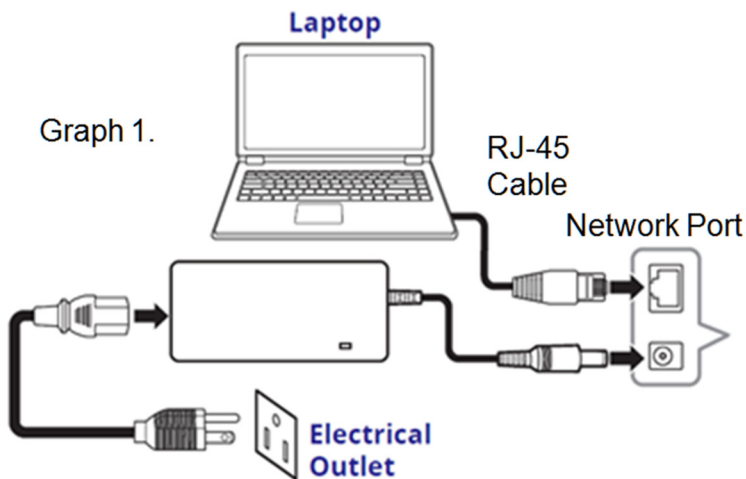
NOTE Do not discard your carton. Put it in a safe place should you need to ship your printer for any reason.

2.2 Connecting to the Power adapter and Cable (or plug adapter if needed)

(1) Connect the power cord and adapter to your device, and then plug it into an electrical outlet

(2) Connect your printer with laptop

- Basic : Connect printer and laptop by RJ-45 cable (Graph1.) [Initiating time 1 minute]
- LAN : Connect both printer and laptop to local area network [Initiating time a few seconds]
- IP sharer : Connect both printer and laptop to IP sharer [Initiating time a few seconds]



2.3 Power Button Control

(1) Power On

Press Power Button => Panel shows Starting up => Panel shows Menu



(2) Power Off

Press Power Button => Confirm message => Confirm to shut down

(3) Emergency shut down

Press Power Button and hold 3 seconds to shut down

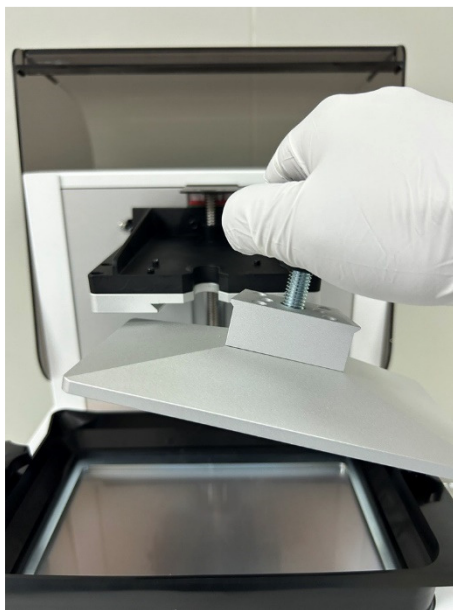
(4) Power Button Signal

Blue		Solid	Standby mode
		Blinking	Starting up or printing in progress
Red		Solid	Error

2.4 Install Picker

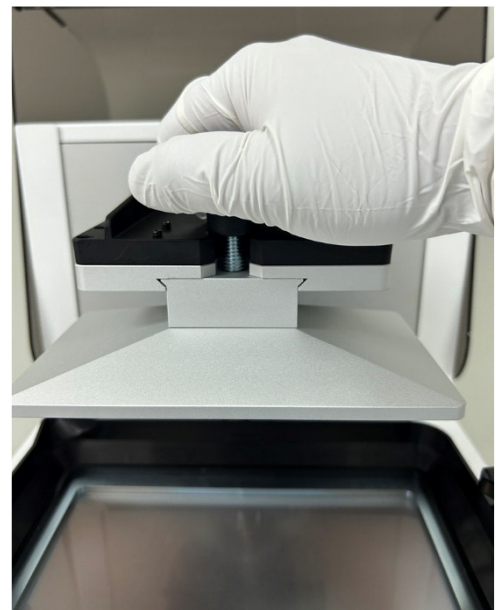
Carry the picker and install

1



Screw and lock the picker onto the machine

2

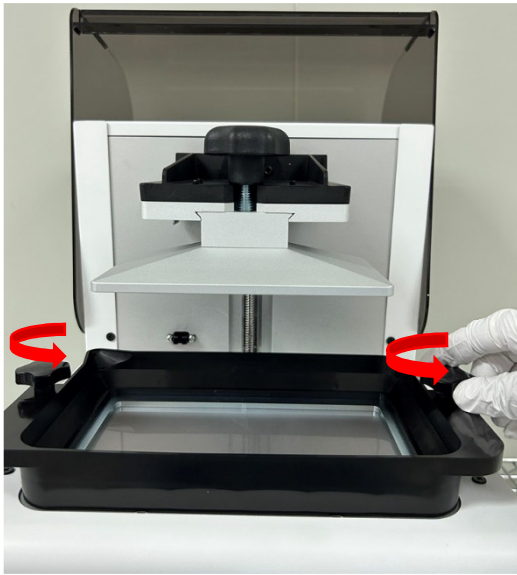


✘ Remove the Picker: Unscrew the picker → Take out the picker

2.5 Fill resin tank

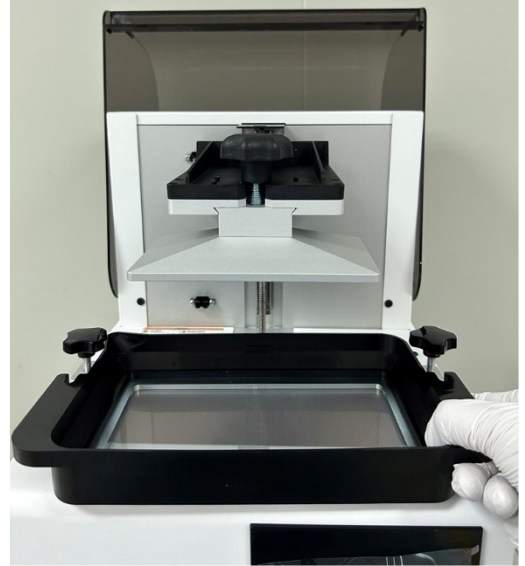
Unscrew the Resin tank from two point

1



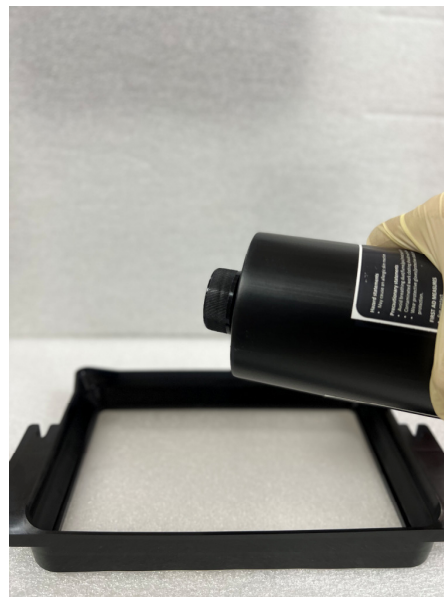
Pick up the resin tank

2



Pour Resin

3



3. Operate your 3D printer –Software

Please go to <https://miicraft.com/support/> to download Utility 6.4.4, follow the steps in "Utility 6.4.4 user manual" to generate slice files.

4. After Print

4.1 Remove Model

Remove the Picker and printed model → Use air gun and ethanol to clean the printed model → Post curing (Additional post curing unit is required) → Carefully remove the printed model from the picker. → Use putty knife to help separate the printed model and picker

WARNING Do not expose the resin tank to direct light source because the resin will solidify under UV light. Use tray to cover the resin tank to prevent solidify.

4.2 Clean Picker

Use putty knife or similar object to scrape away the excess printed model on the picker. If any greasy residue persists, use a soft cloth dipped in alcohol to rub the surface until the grease is removed.

WARNING Do not use chisel to scrape off the printed parts on the picker. The rugged surface of picker will cause the resin tank & UV glass be damaged.

4.3 Clean Resin Tank

Pour resin out of tank → Pour ethanol into tank and soak in a while → Use tissue or lens tissue softly wipe the bottom of tank → Finished cleaning. Or let the projector help cleaning Tank, please refer to Utility user manual, the cleaning Tank Process.



Notifications:

- Do not shut down the power during curing
- Do not interrupt the firmware upgrade process. Any interruptions during the firmware upgrade process may cause your printer to malfunction
- Update the firmware frequently for better user experience
- Before printing, please check the surface of picker and tank is clean, no residual, otherwise it may affect printing quality
- Regularly inspect the resin tank, and replace it with a new resin tank once tension status of Teflon film gets loose.

Appendix 1. Specifications

* All specification and design subject to change without notice

MiiCarft Modules	Alpha Series
Building size (mm)	L150 x W84.4 x H75
XY Resolution	58 um
Z-Layer Resolution	10 to 500um
Wavelength (LED)	405nm
I/O (Connection)	Ethernet / USB
User Interface	5" Touch Screen