

you can
WANHAO

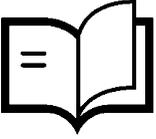
MARK I
Duplicator **8**



USER MANUAL
High Resolution Resin 3D Printer

Important

Getting the most out of your 3D Printer:



Read the manual carefully

It will help you get set up with ease



Visit www.wanhao3dprinter.com

We've got additional support videos and guides



Google Forum

Join Wanhao Technical Forum for online support

<https://groups.google.com/forum/#!forum/wanhao-printer-3d>



Email support@wanhao3dprinter.com

We're always happy to help

Warranty Note

If you experience any issues with this product, or it's performance is not what you had expected, please contact us at WANHAO before returning the item to the store.

It is likely that we can resolve any problems for you via phone or email.

We can be reached through your local distributor. Or on

Phone: +86-571-23290996(Mon-Sat; 8:30am-5:00pm)

Email: support@wanhao3dprinter.com

Web: www.wanhao3dprinter.com



3D Printer

Warranty Details

The product is guaranteed to be free from defects in workmanship and mother board for a period of 12 months from the date of purchase. The LCD display is consumable parts with Minimal working hours 1200 hours. You may need to purchase and replace it after 1200 hours. Printing with materials other than WANHAO resin which are different from those recommended on the website www.wanhao3dprinter.com, may cause result in damage the printer or bad printing quality. Defects that occur within this warranty period, under normal use and care, will be repaired, replaced or refunded at our discretion. The benefits conferred by this warranty are in addition to all rights and remedies in respect of the product that the consumer has under the China laws. In case you purchase from WANHAO distributor, your warranty shall be covered by distributor's Warranty and honored by WANHAO distributor too. Our goods come with guarantees that cannot be excluded under the Chinese Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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Model : Duplicator 8 MARK I



Technical Specifications

Technical Specifications	
Machine Type	DLP (Digital Light Processing) 3D Printer
Extruder System	405 nm UV lamp, DLP
Enclosure Type	Tilt Hood with UV safe glass
Max printable area	192*120*180mm
Software	Internal Wanhao Slicer , all STL file
UV Type	405nm UV light
Material supported	405nm Resin
Max printing speed	Up to 30mm/hour
Case Material	Steel Case Construction
Projection Size	8.9 inch LCD
Accuracy	X 0.075mm Y 0.075mm Z 0.035~0.1mm
LCD display	Front
Net Weight(kg)	22kg
Gross Weight(kg)	28kg
Packing size(cm)	470*460*575mm
Layer Thickness	35-100 micron
Certification	FCC,CE, CB
Platform Holder	4 bolt adjusting system
Rail locking system	Steel bolt locking frame
Platform	Aluminum building plate
Price Range	Varied for different country
Power supply unit	Inside 110 AND 250V(Auto Switch), 50/60Hz, 4.0A (input), and takes standard IEC cable
Typical application	<ul style="list-style-type: none"> • Prototyping, Modeling, Jewelry, Dentistry, Gaming and Art Applications. • Great for Professional use or DIY hobbyists.

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Product Overview



1. Red Anti Wobble Cover

2. Aluminum Super Flat Build Plate

3. Z Axis Rail

4. Super Flat, Re-usable Vat

5. Tuch Screen

6. USB Slot

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Product Overview



7. Power Switch

8. Plug Socket

9. Vent Holes

10. Triple Cooling Fan

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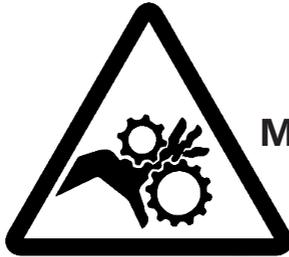
Model : Duplicator 8 MARK I



Safety Instructions

Before you get started, please read these important safety instructions.

CAUTION : The WANHAO 3D Printer includes moving parts that can cause injury. Never reach inside of the WANHAO 3D Printer while it is in operation, and allow time for the printer to cool down after operation.



MOVING PARTS



Do not leave the WANHAO 3D Printer unattended during operation



Always wear the glove while handling resin or printing object.



Always take care when using the Scraper. Never direct the Scraper towards your fingers.

- The printer must not be exposed to water or rain, or damage will occur.
- The printer is designed to be used with ambient temperature ranging 15°C - 30°C, and humidity ranging 20% - 50%. Operating outside these limits may result in low quality models.
- In case of emergency, turn off the 3D printer at the power outlet.
- It is recommended that you use eye protection when cleaning/sanding printed models to avoid small particles contacting eyes.

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Congratulations

You have just purchased a new type of 3D printer using Direct UV-light Printing (DUP) technology. This is a newly applied-for method of LCD image creation allow controlled UV light get through the LCD screen which hardens liquid with the light from an UV light source. This revolutionary system is a new way of printing that uses normal UV light as the energy providing source to initiate the free radical polymerisation necessary to change the liquid imagepac resin into your hardened object.

The principle behind your printer

There are two surprising advantages of this new DUP technology:

i) We can use high resolution low cost LCD screens that are widely available as monitors, tablets, mobile phone and televisions providing phenomenal value for money, which we pass directly onto you.

ii) The energy used by Duplicator 8 MARK I printers is again an order of magnitude lower than used in comparable systems. This is good for your energy bills and the ecology, but there is a huge performance advantage in that there is no unnecessary energy created. All of the available photons strike photoinitiators and hand over their energy. In comparable Digital Light Projector and laser systems there is a lot of excess energy which can lead to over-cure.

Safety Information

Read the instructions carefully. Keep this document for future reference. Follow all warnings and instructions marked on the product.

Observe the following guidelines when connecting and disconnecting power cord to the printer.

- Insert the Power cable cord into the socket at back of printer.
- Turn off the printer before Unplug the power cord.
- The printer cooling fan is suppose to run when you tun on the printer.
- Operate on a table or flat, stable surface, ensuring that the machine cannot fall and is level.
- Do not operate outdoors.
- Do not allow resin or any liquids to get inside the chassis, wipe up any liquid spills immediately.
- Store the printer in its original packaging when not in use.
- Plug off the cable cord when not used for a long period of time.





Electrical power

This 3D printer is connected to the electrical network with an INPUT of 110 or 240 VAC, 50/60 Hz, and has an operational voltage of 12 V.

- Do not allow anything to rest on the power cord. Do not locate this product where people will walk on the cord.
- If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.
- Do not overload a power outlet, strip or receptacle by plugging in too many devices.
- Use the product only with the supplied power supply cord set. If you need to replace the power cord set, make sure that the new power cord meets the following requirements: detachable type, UL listed/CSA certified, VDE approved or its equivalent, 4.5 meters (15 feet) maximum
- In case of malfunction disconnect the printer immediately from network.
- Do not attempt to fix this product by yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all reparation to qualified service personnel. For contact the technical service please send an email to your national supplier or www.wanhao3dprinter.com

Unplug this product from the wall outlet and refer servicing to qualified service personnel when:

- The power cord or plug is damaged, cut or frayed.
- Liquid was spilled into the product.
- The product was exposed to rain or water.
- The product has been dropped or the case has been damaged.
- The product exhibits a distinct change in performance, indicating a malfunction.
- The product does not operate normally after following the operating instructions.
- Keep the printer out of the reach of small children.

Disposal instructions

Do not throw this electronic device into the waste when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle or return to WANHAO for recycling.



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Model : Duplicator 8 MARK I



Useful advice

Have supervision when used by a minor.

The resin is an irritant to skin and eyes. Always wear gloves when coming into contact with the liquid resin.

The printer should be operated on a stable and level surface, preferably away from direct ambient light and with sufficient space to be able to open doors

The tool kit contains

- D8 flash disk 16GB x1
- Dongle x1
- 2.0mm Allen key x1
- 2.5mm Allen key x1
- Funnel x1
- Scarper x1
- Bolt x2
- Power cord x1
- D8- disposable medical gloves (a set of 2) x2

Note: 500ml resin (for free) will be shipped by DHL.

Recommended items

- Gloves
- Paper towels
- industrial alcohol
- Soft brush or sponge to clean the object
- Plastic container to rinse the resin

Minimum computer requirements

- Dual Core processor or above.
- Windows or Linux OS
- Software is Compatible with Mac.
- 4 GB RAM memory or above.

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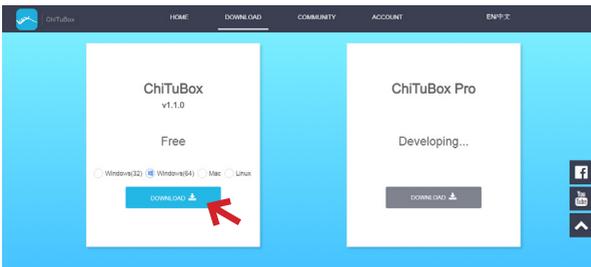


How to install D8

Procedure

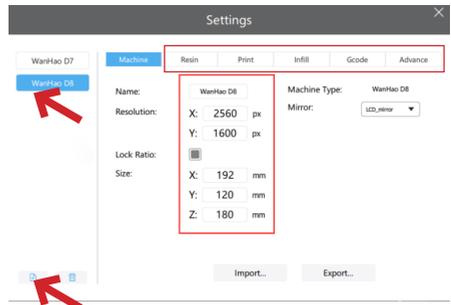
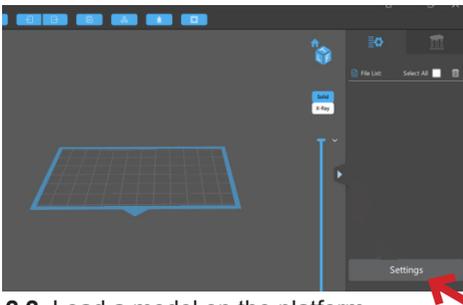
1.0 Download the Chitu software from the link below based on your PC System.

https://www.chitubox.com/download.html?fbclid=IwAR3Jn2D91b42PjfRIIKMezmtvTTCIWu7ne88i_KXEofp7ryCGL6Z0M7FT9Y

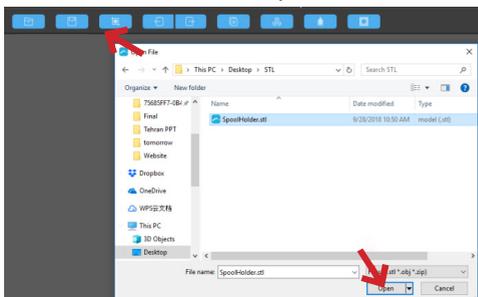


Follow up with steps and Install the software.

2.1 Click on Setting and choose D8 printer and click on OK. D8 printer Displays and settings are pre configured. Based on the model and your preferences you can modify setting in these menus.



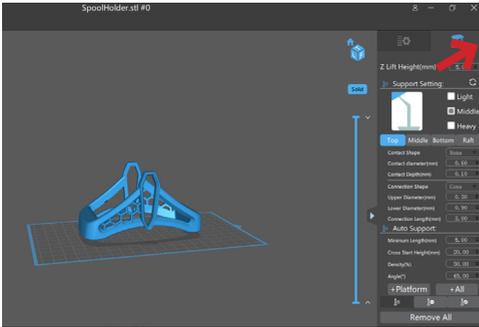
2.2 Load a model on the platform.



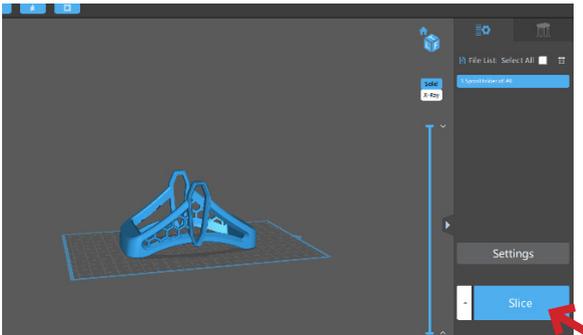
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2.3 In this bar you can add supports automatically and manually to your model.



3.1 After you ensure the setting click on Slice.

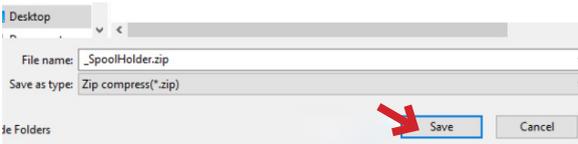


3.2 In the Slicing process you can see the printing time and other information about the model. You can also slide the slider to up and down and see the layers of the model you are going to print.

Click on Export and save the file as a Zip file.



Slicer starts to write and save the file.



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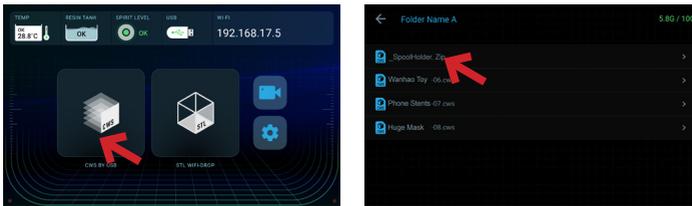
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4.1 Printing by USB

4.1.1 After slicing process copy the sliced model into the USB memory that comes with printer or any other USB memory that your prefer to place the file in.

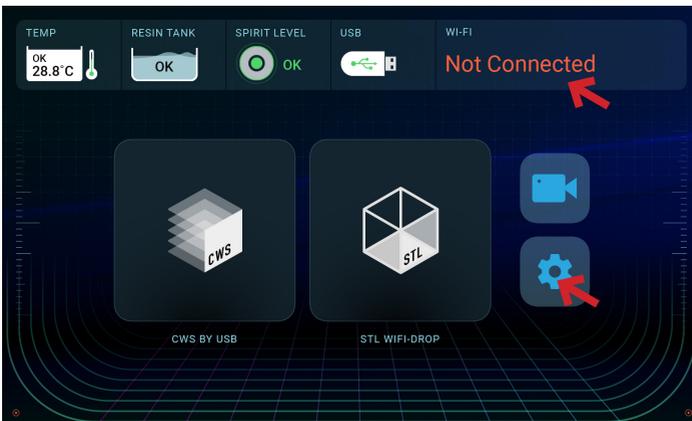


4.1.2 In the Home Screen press on CWS BY USB, Choose the Sliced file press on Print Now, Printer starts to load the model and lower the building platform and the printing process begins.

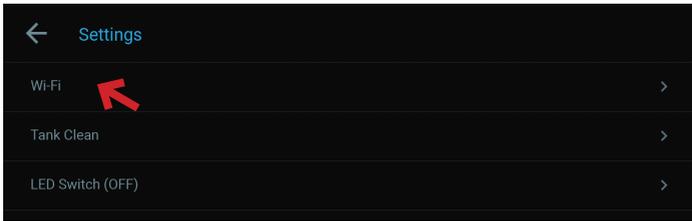


4.2 Printing by WIFI

4.2.1 Insert the Dongle

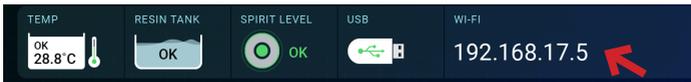


4.2.2 Go to setting and choose WiFi

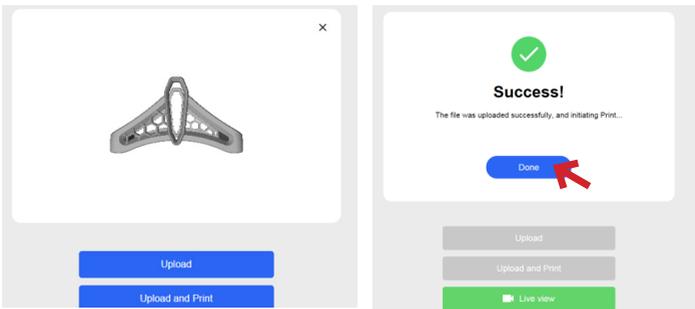


4.2.3 Click on the available WiFi and enter your password.

4.2.4 After success connection, input the IP address given by printer in your PC web browser and connect to D8.



4.2.5 Upload the File



4.2.6 Press on Print Now



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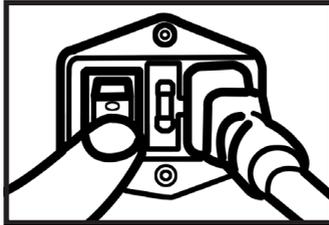
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Model : Duplicator 8 MARK I

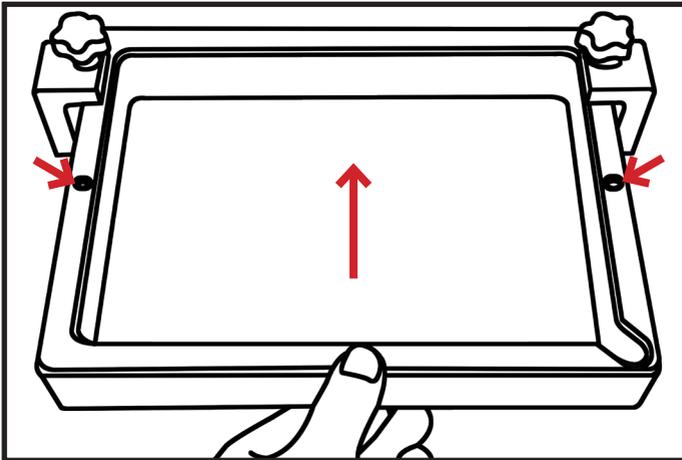
PREPARE DUPLICATOR 8 FOR PRINTING

5.0 Preparing Printer

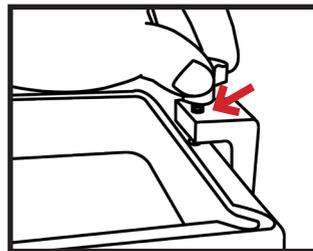
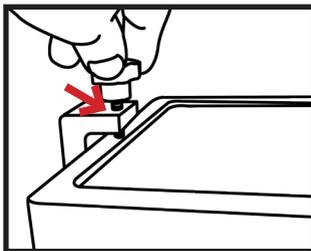
5.1 Plug the power cord and turn on the printer, Printer starts to boot up. Wait until you access to Home Screen.



5.2 Slid the vat smoothly on the LCD screen and align the spots on the Vat with two knobs on the left and right.

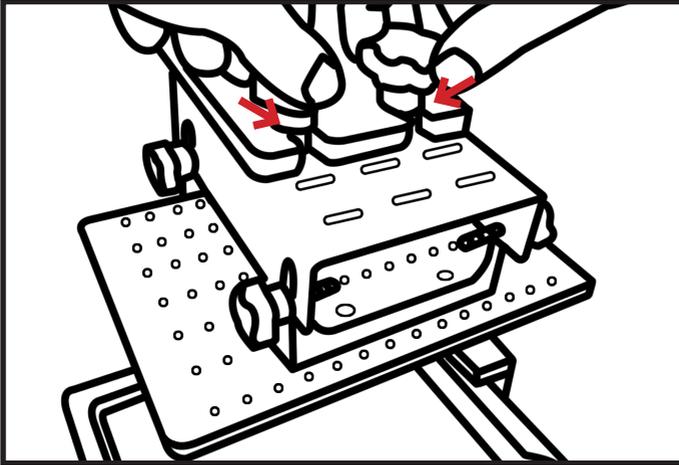


5.3 Tighten the knobs on the both side, Make sure tight them enough and don't put too much Pressure.

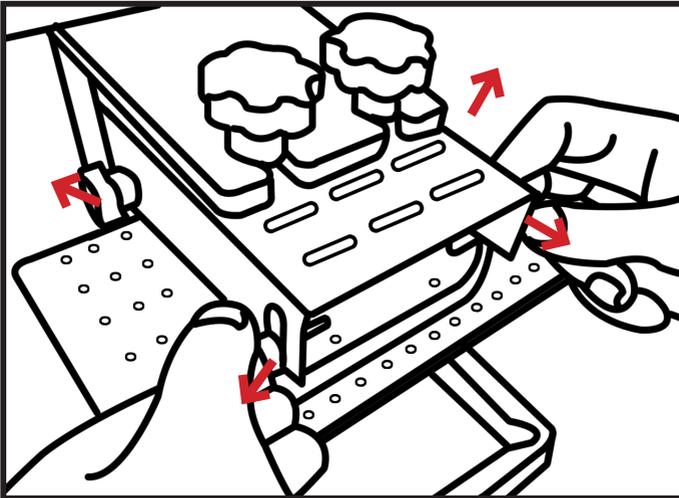


6.0 Mounting printing platform

6.1 Mount the printing platform on the holding plate and tighten two knobs on top of it. Make sure is tight enough that the printing platform does not move or shake.



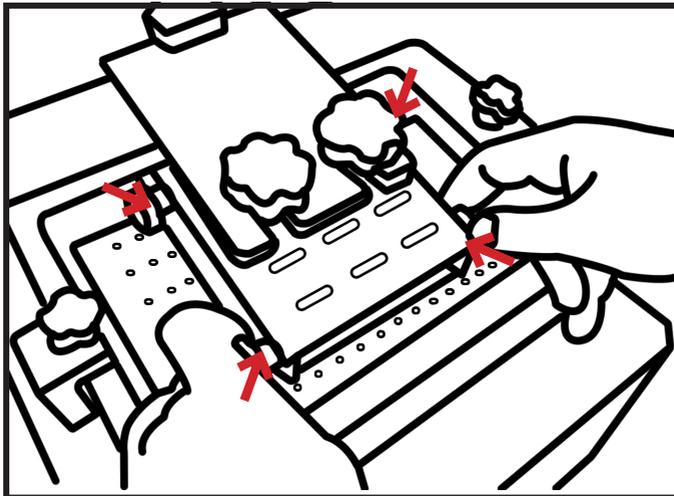
6.2 Loosen four knobs on the printing on the right and the left side of the platform.



6.3 On Home Screen Press on Setting> Z Height >Reset.
Building platform starts to lower and home positioning.

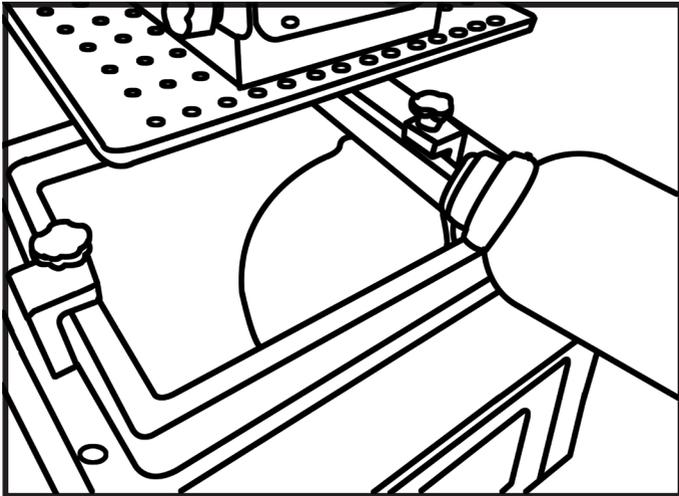


6.4 After the platform homed and reached into the vat, with little bit of press tighten the four knobs in front and the back of printing plate.



7.0 Pouring resin

7.1 In order to pour the resin into vat your need to lift the printing platform. Press on upper icon for few times and give a good distance between vat and printing plate. Shake the bottle continuously before open it then pour the resin inside the vat as shown in the pictures below.





Cleaning the machine and your printed objects

These steps will reduce any resin spillage and keep your machine clean.

1. Move the platform up enough so the base of your object is clear of the vat. Remove the hood on the print platform. Tilt the platform backwards in order for the excess resin to drip back into the vat.
2. With absorbent paper under it, remove the platform completely and set it down on a surface that will not be affected by resin. Place the hood back on immediately to protect the resin in the vat from light.
3. Remove any excess polymer with paper first. Place the platform to a washing-up bowl and remove the objects by sliding the scraper in at their base. Wash off any liquid polymer by alcohol. You can gently clean it with a soft brush or sponge, taking care not to damage it, it will not achieve full hardness until after post exposing in light. If you have an ultrasonic cleaner this will clean it without the possibility of damaging it.
4. Check it is thoroughly clean then place it in a container for 10-20 minutes in an area with bright sunlight. You can use light from a UV lamp. When it has been completely post exposed, it will be stronger and have a dry surface. You will notice that it darkens in colour as it is exposed to light. Dry it and check that it is dry, if not repeat.
5. Clean the build platform with industrial alcohol, chip off any cured resin and dry it before inserting it back into the printer.
6. You should empty the vat and clean it every time in case you have any solid pieces on the bottom, as these would prevent the platform from homing correctly. Loosen the Z brackets and remove the vat from the printer, pour the resin back into the bottle through a strainer. Place the vat on a flat surface and wipe the base of the vat with absorbent paper. Make sure it is clean and not damaged. If it is not flat, clean and tight like a drum, remove the film and replace it with a new piece.
7. If you have a leak on the screen it is easy to remove the hardened resin without damaging the screen by shipping it off with a blunt non-serrated knife.

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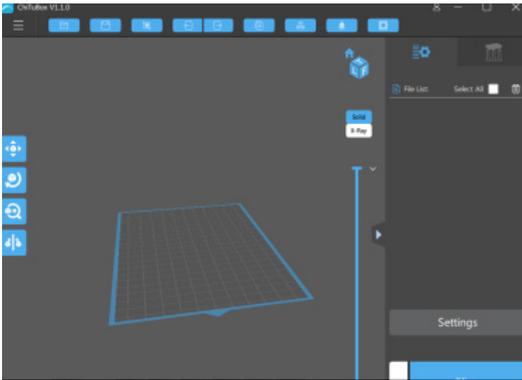


Detailed Chitu workshop software instructions

System Compatibility

Chitu is native to the Windows Operation System and Mac Operation System.

Main screen



Click to open files in one of the following formats: .STL.OBJ, Zip file



Click to save the current object as a .ZIP file. The .STL format allows you to prepare a scene to be printed repeatedly in the future, together with supports and positioning.



These four buttons Left, Front,Top and Original. Clicking these allow you to view the 3D objects within their boundary box. You can add supports in this function.



Slice

Clicking this button accesses the "Slice" screen. You can see the individual slices that have been generated as well as the Zip.



Settings

In Settings you can configure the slicing and printing profiles

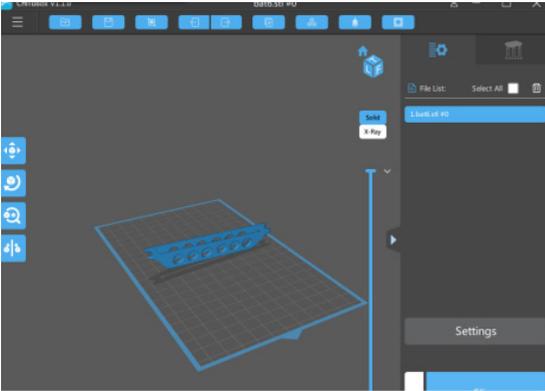


In this bar you can add supports automatically and manually to you model.

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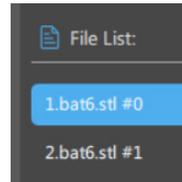
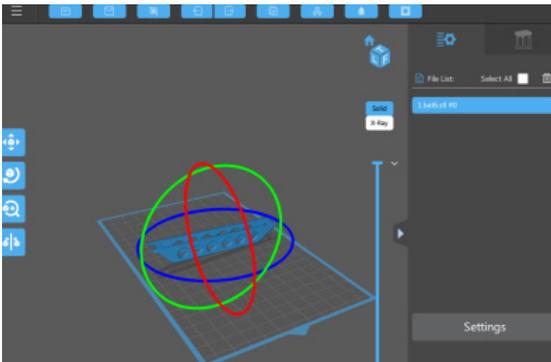


1. Loading a Model



Click to open files in one of the following formats:
STL,OBJ, Zip file

2. Scene View

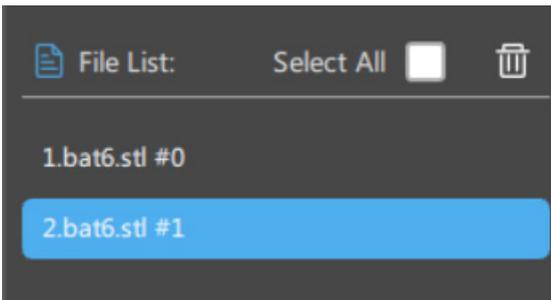


Selecting

You can select the model by clicking on the model or select it from the File List.

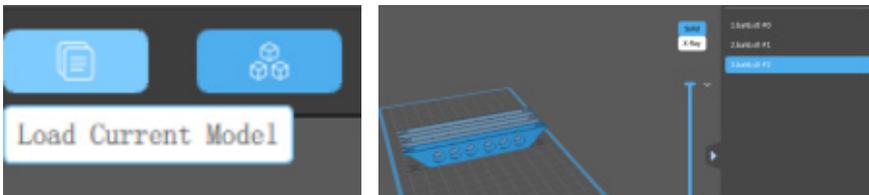
Removing a Model

You can remove all models by marking the Select All box and clicking on the Trash Bin icon.



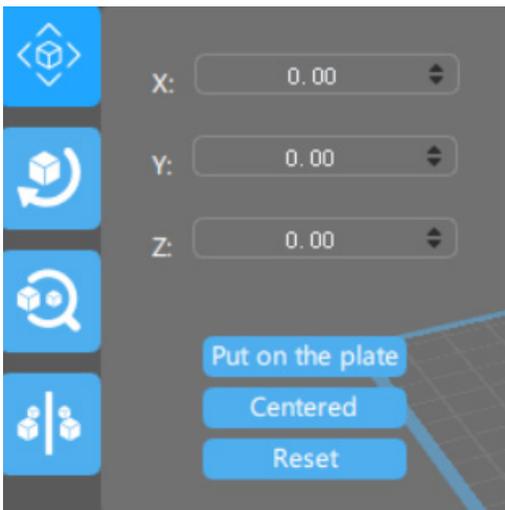
Cloning a model

You can click load current model. The cloned object will appear in the scene view.



3. Tools Bar

In tool bars you can Move, Rotate, Scale and Mirror the Object.



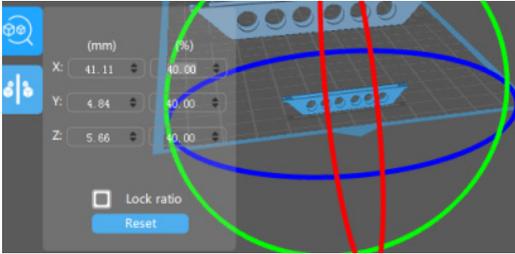
The Move function allows you to move objects on the build platform along the x:y:z axis by the distance entered.

From left to right, the other tools are:

- * The 'Put on the plate' button will position the bottom of the model to rest on the bottom of the build platform.
- * The 'Center' button will center the model at (0,0,0).
Auto-Arrange will automatically lay out all models to fit on the build platform. Any model that does not fit within the build platform will be moved outside the build area.
- * The 'Reset' button will put the model in the position where you set(X,Y,Z)

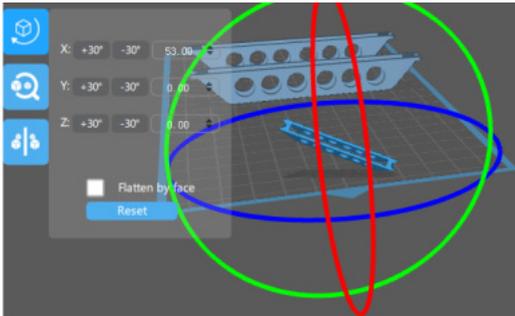


4. Scaling objects



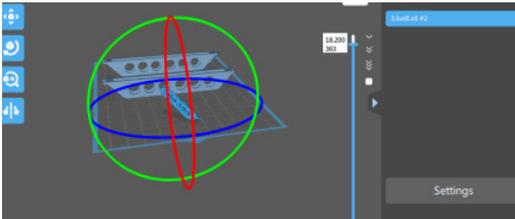
A model can be scaled (reduced or increased) by selecting it, and using the 'Scale' view to enter in a new scaler value. Press the tick button to re-scale your object.

5. Rotating Objects



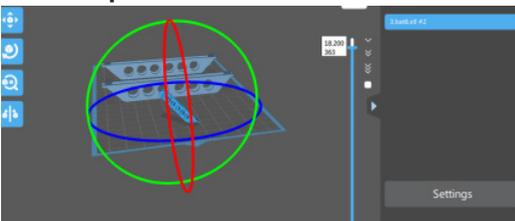
A model can be scaled (reduced or increased) by selecting it, and using the 'Scale' view to enter in a new scaler value. Press the tick button to re-scale your object.

6. View Options



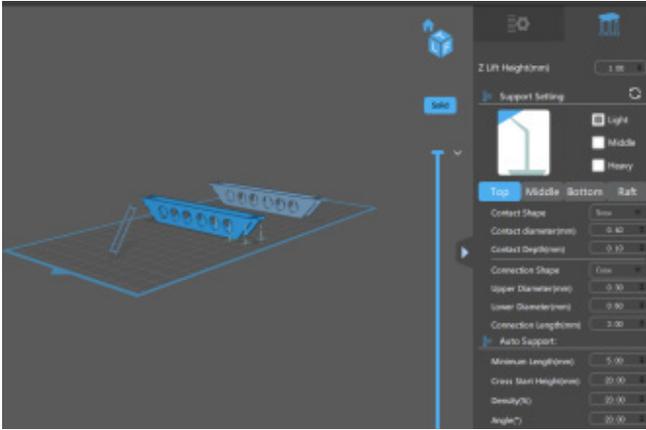
This will allow you to see through the objects in the scene to see the geometry **Show Slice Preview** on Scene.

7. View Options



This will allow you to see through the objects in the scene to see the geometry **Show Slice Preview** on Scene.

8. Working with Model Support tools



Using Supports

Supports are sometime required to properly attach a model to the build space. Because of the nature of DPP the lower layers must be supported by the supports unless it has a wide surface in the first layers.

Adding a single Support

A single support can be generated by clicking the manual support button/

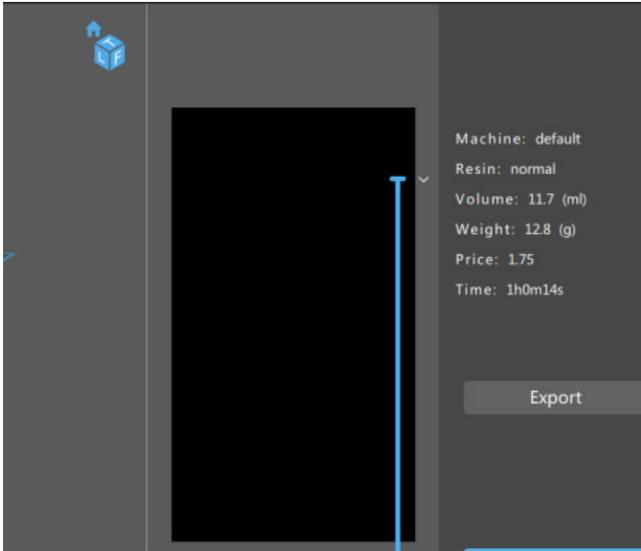
Angled Supports

Supports can be angled inwards towards the objects they support. This can often resolve clearance issues with vertical supports. You can turn a vertical support into an angled support by selecting it, and holding the 'Ctrl' key and clicking on the model you want to support.



9.Slice view

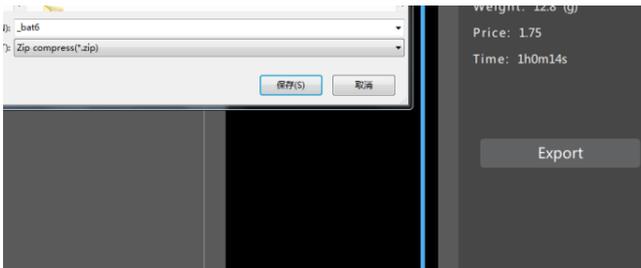
In the Slice View screen we get the following information:



You can see the printing time and other information about the model. You can also slide the slider to up and down and see the layers of the model you are going to print.

10.Savefiles

Click on Export and save the file as a Zip file.

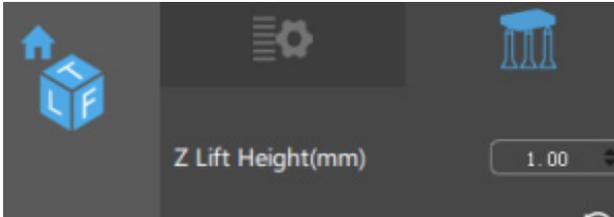


11. Save a Scene



Click to save the current object as a .STL file. The .STL format allows you to prepare a scene to be printed repeatedly in the future, together with supports and positioning. After models have been loaded and manipulated on the build platform, the entire scene can be saved as an STL model for later use. These scene files can be used to create a scene with supports, slice the scene, and later load to print your scene without the need for re-slicing.

12.



From this screen we will be able to control the motors of the printer, which means displacing the build base over the Z axis, as well as controlling the LCD. In this section of the Control screen we have the buttons that will allow us to move the Z position of the build base. Using the value indicated as z Rate (at the bottom) you can change the speed of progress measured in millimeters / minute.

13. Others functions

Wall Thickness: This field is to set the thickness of each slice in mm. The default is .05mm (20 slices per mm)

Bottom Layer Count: This specifies the number of 'bottom layers' that receive the longer exposure time.

Exposure Time per Layer: This time value specifies how long the projector will display an image slice on a per-layer basis.

Bottom Layer exposure time: In order to ensure the model is properly adhered to the bottom of a vat, a longer exposure time can be used for a specified number of bottom layers.

Light -off Delay: This setting can delay the UV led lighting before starting to print.
Bottom Light -off Delay This setting can delay the bottom lighting before starting to print.

Lifting Speed: When a layer is printed on a bottom up machine, a large amount of force may be required to separate the slide from the vat. This speed indicates how fast to perform the lift, a slower speed may be required to help vat separation.

Retract speed: After the lift occurs, this speed indicates how fast the z axis should travel back to the initial start position.





3D Printer

Repair and Refurbished Goods or Parts Notice

Unfortunately, from time to time, faulty products are manufactured which need to change components or return to the Supplier for repair

Please be aware that if your product is capable of retaining user-generated data (such as files stored on a computer hard drive, telephone numbers stored on a mobile telephone, songs stored on a portable media player, games saved on a games console or files stored on a USB memory stick) during the process of repair, some or all of your stored data may be lost.

We recommend you save this data elsewhere prior to sending the product for repair.

You should also be aware that rather than repairing goods, we may replace them with refurbished goods of the same type or use refurbished parts in the repair process.

Please be assured though, refurbished parts or replacements are only used where they meet WANHAO's stringent quality specifications.

If at any time you feel your repair is being handled unsatisfactorily, you may escalate your complaint. Please telephone us on 86-571-23290996 or write to us at:

WANHAO Precision Casting Co.,Ltd
77, RENMING ROAD, JINHUA, CHINA
WANHAO Help Desk 86-571-23290996
(Operating Hours: Mon - Sat; 8:00am - 5:00pm)
support@wanhao3dprinter.com
www.wanhao3dprinter.com

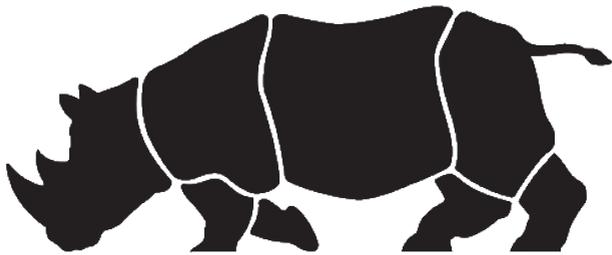
AFTER SALES SUPPORT

 86-571-23290996

 support@wanhao3dprinter.com

Model : Duplicator 8 MARK I





WANHAO