PHENOM

User Guide

## By the Peopoly team.

Introduction:

Thank you for purchasing the Phenom L . We wrote this user guide as both instructions and references for beginners and advanced users. If you just received the Phenom L and need a walkthrough of how to set up your printer, please see the Quick Start guide.

Product specs, details, and information;

LCDPannel;	3840 X 2160 (UHD / 4K)
Print Volume	345.6 X 194.4 X 400 MM
Pixel Pitch	90um
Screen Aspect Ratio	16:9
UV Light Power	100W
Printer Size	525 x 395 x 780 mm
Shipment Size	91 X 58 X 51 CM
Vat Volume	2.5kg
Build Material	Metal and Acrylic
Color	Dark Grey Body + Orange Window
Physical Weight	50KG
Shipping Weight;	**55**KG

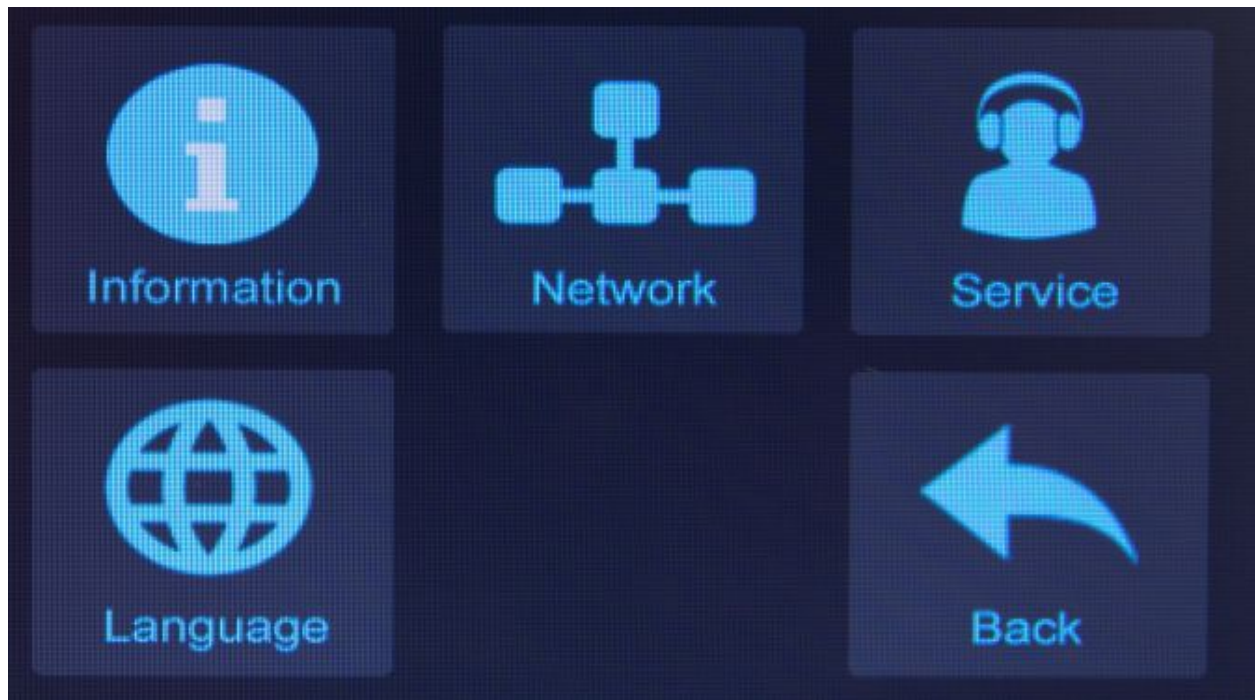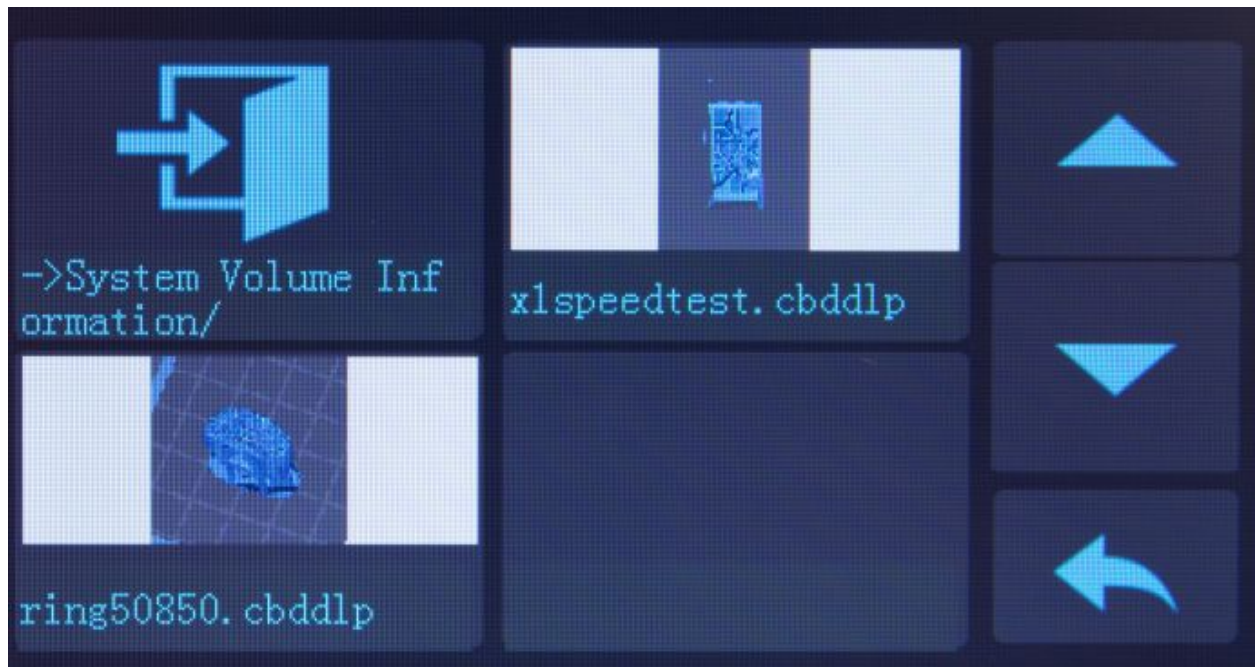**Touch Screen Menus:**

Main Menu:
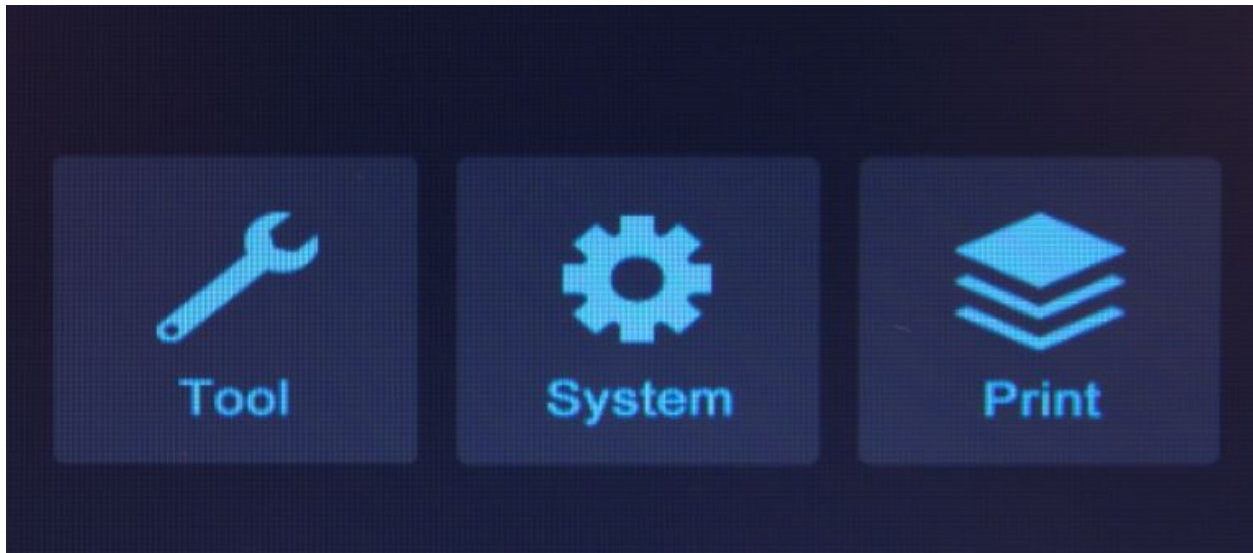
Tool Menu:

System Menu:

Print Menu

-

How to install vat,

The Phenom L vat is made of aluminum and special fep film and has a silver color. It is purpose is to hold the resin for printing. Installation and removing vat is very simple, loosen the Vat Screw so there is enough clearing, slide the vat in the space and tighten up the screws on both side. Make sure to push the vat all the way in before turning on the screws.
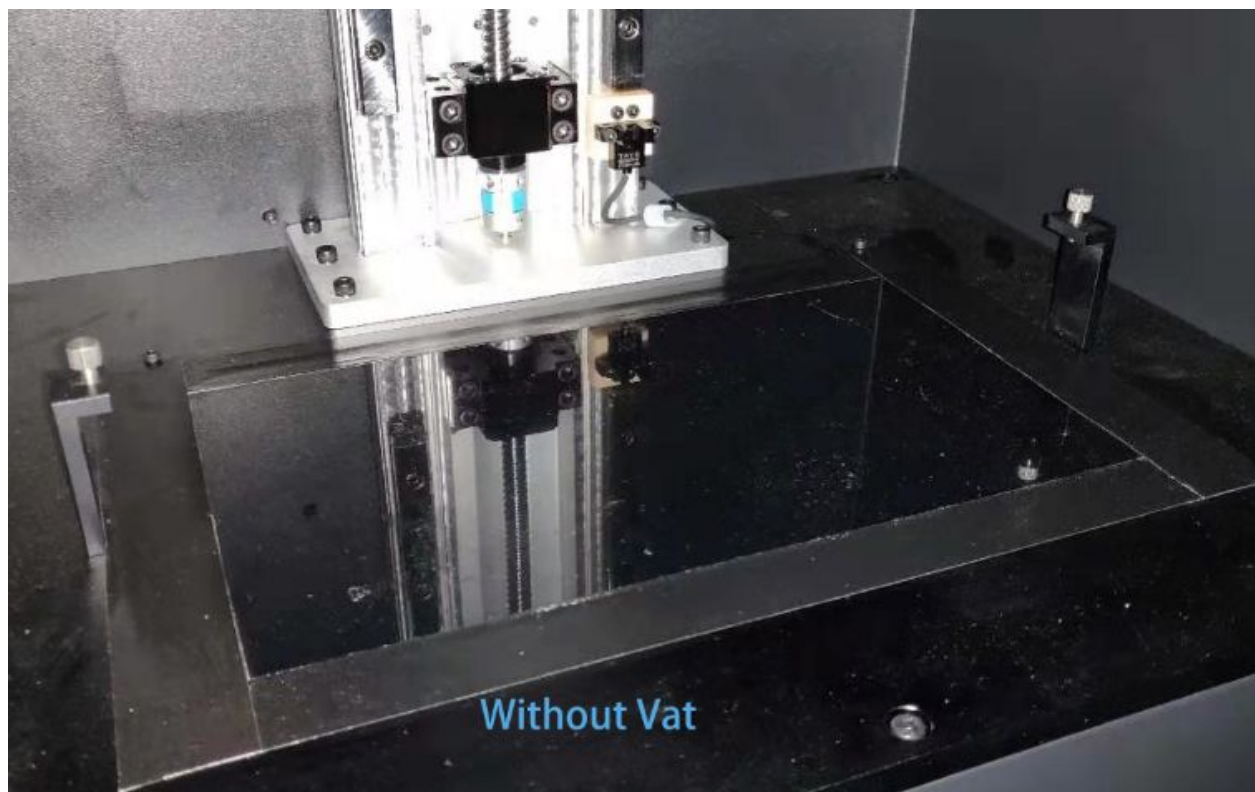

Removing the vat is just the reverse of the steps of the vat installation. Before removing a vat, make sure there is no resin on the build plate so it does not drip down to the glasses

underneath the vat. <u>If there are resins on the build plate, please remove the build plate BEFORE removing the vat.</u>

How to install Build Plate:

Build Plate is the surface made of aluminum where the prints will cure and stick. It is of silver color with a metal handle on the top. The handle is where it connects to the plate arm and secured by the Build Plate Knob
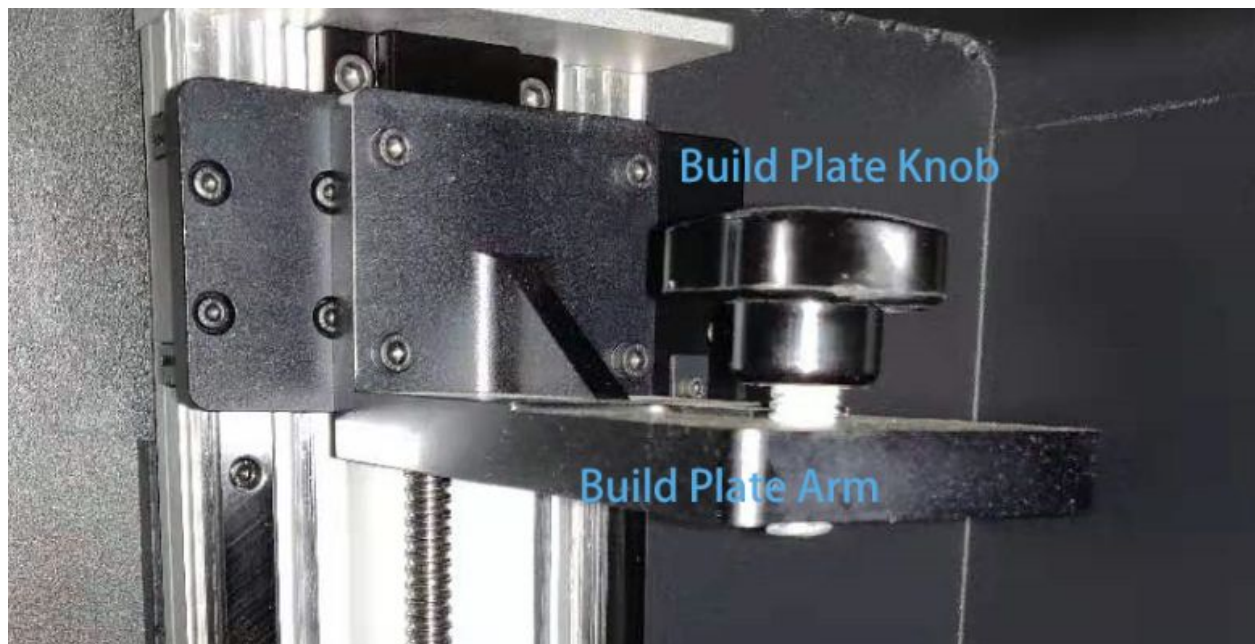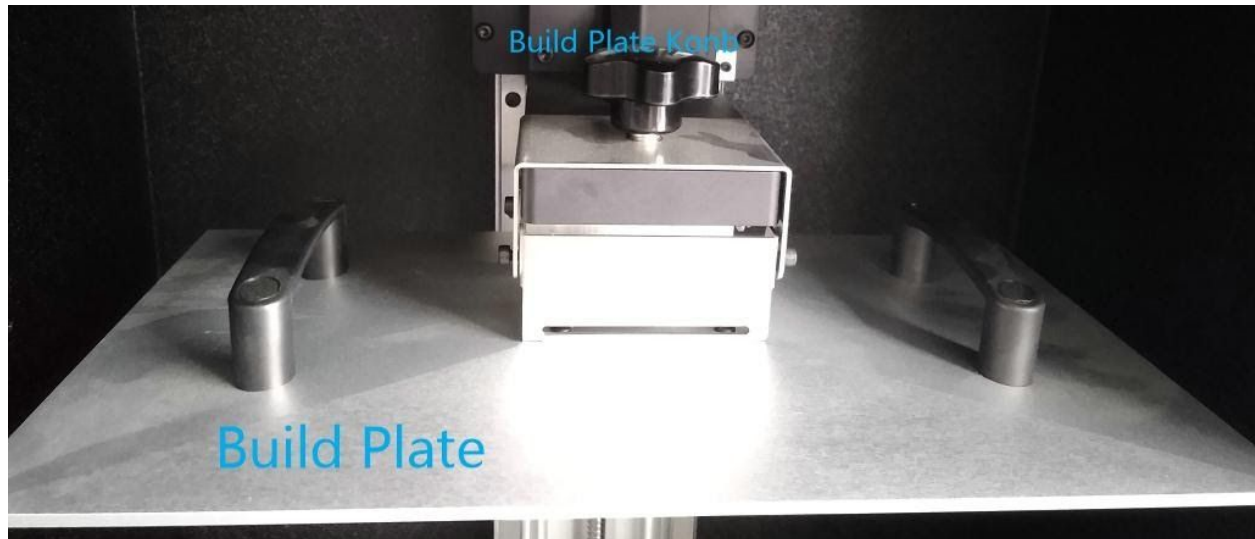
Before removing a build plate with resins on it, make sure there is a resin vat installed so the resin does not drip on to the screen glasses.

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How to Print

To start a print,

- Make sure there are enough of resin in the vat, if not, add up to half of the capacity of the vat. It is a good practice to have at least half vat of resin when printing.
- If you need more than half vat of resin for a large print, only add when the print has started. The vat can hold close to 4L of resins
- Make sure the vat screws are tightened
- Make sure the build plate screw is tighten
- Turn on the printer
- Insert the USB drive with the file you want to print (Read "How to prepare files" for more info on creating print files
- Press the Print Menu

- Select the files you want to print,

- check the visual preview before confirming by pressing play

- You will see the build plate dropping down and once it hits the bottom of the vat, the UV light will start to hitting on the resin and that is where the printing (curing) starts. You will not be able to see the UV light with the plate down but if there is no plate, this is how it would look like:
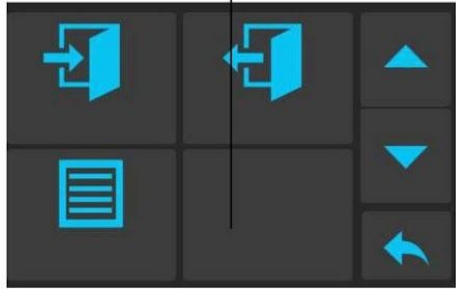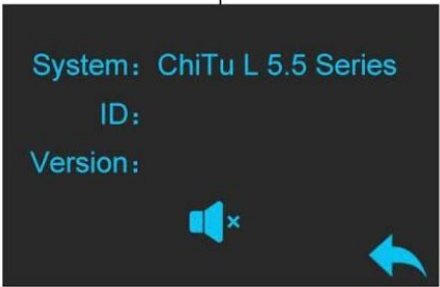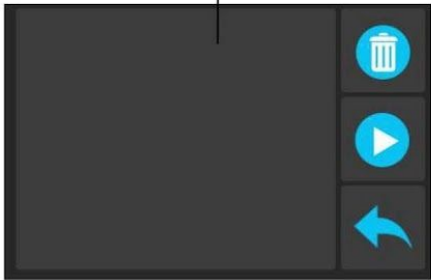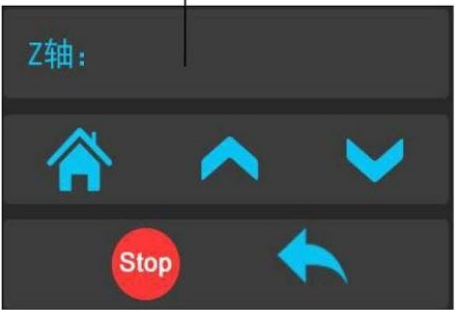

Menu Operation:

MENU

Tool · System · Print

TOOLS

Manual · Calibrate · Set Z=0 · Stop · Back

SYSTEM

Information · Network · Service · Language · Back

PRINT

VERSION

System: ChiTu L 5.5 Series
ID:
Version:

CLICK FILES

Z轴:

Please set the exposure time of the test image:

S · Next

Stop

MENU ZMOVE   LIGHTING DETECT   PRINT   PRINTING

MENU

⬚ Enter the Print Menu

⚙ Enter the System Menu

🔧 Enter the Tools Menu

SYSTEM

🅰 Change language(English/Chinese)

👤 Official website and after sale contact

ⓘ Product information

↩ Return to Home Menu

CLICKS FILES

🗑 Delete the current file

▶ Click to start printing

↩ Return to the Print Menu

SERVICE

↩ Return to System Menu

DETECTION

3 S Click to set the test time

⌃ Increase the test time

⌄ Reduce the test time

NEXT Click on the test for the preset time

↩ Return to the tools menu

PRINT

⌃ Page up

⌄ Page down

↩ Return to the Home Menu

TOOLS

↕ Move axis manually

☀ Screen test

⟂ Reset the zero point

⊘ Turn off the Z-axis motor

↩ Return to Home Menu

INFO

🔊 Change sound turn on/off

↩ Return to the System Menu

MOVE Z

0.1mm Move Z by 0.1mm

1mm Move Z by 1mm

10mm Move Z by 10mm

🏠 Return to Zero

⌃ Move the Z axis upwards

⌄ Move the Z axis down

⊘ Stop moving the Z axis

↩ Return to Home Menu

Software – Installation

Phenom L prints CBDDLP files which is format created by Chitubox. To convert your files to CBDDLP, you would need a copy of the Chitubox slicers. It comes in Windows 32/64 version, OSX version as well as Linux excutable.
You can download the version 1.6.4.3 which is compatible with Phenom L here:

https://drive.google.com/open?id=1EWqZw656HbG7QJFlpsgj5PrLyVinardF
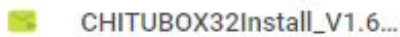
Please make sure you also download the base profile for Deft Resin here:
_Phenom L_all_profile
https://drive.google.com/drive/folders/1-HJQERKxo8p7eAZOGhoeSoI3ESm7bZPg
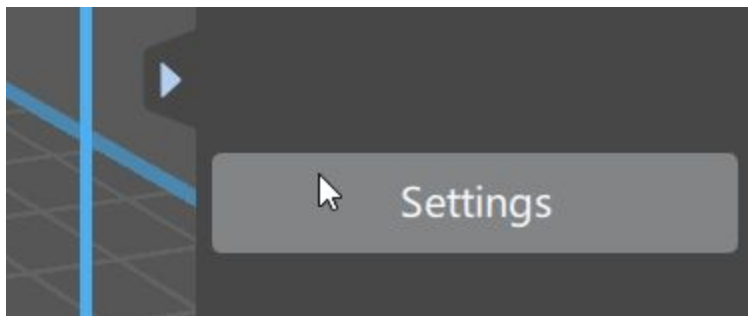
This is for printing Deft Resin at 50um on Phenom L. While Phenom L exposure control is open to the user, we cannot guarantee Phenom L will work with all 405nm UV resin. This is because we could not possibly test all 405nm resins and many not designed for large format LCD printer.
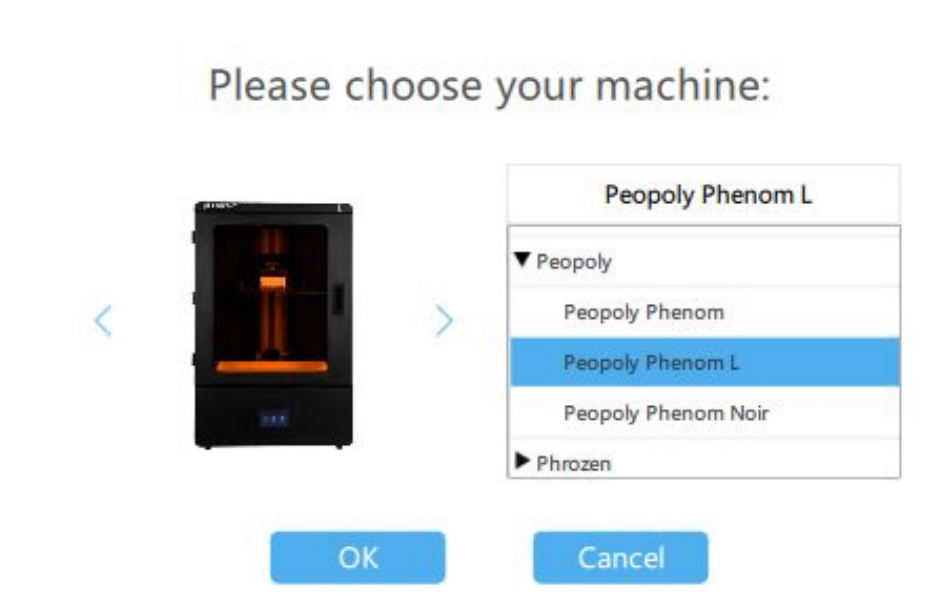
Software - Setup

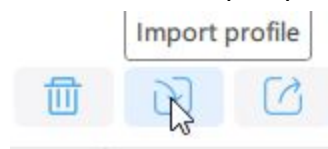Once the software is installed. Please click on Settings
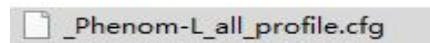

The click add new printer
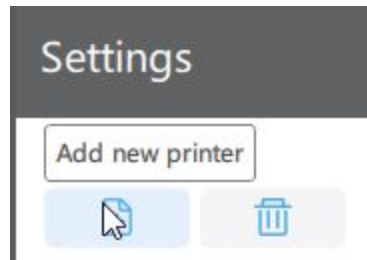
Scroll all the way down the list to select "peopoly"

Then Click on Import profile at the upper right corner

And select the profil you justed downloand

Double-check the setting by click Print tab

Phenom L - Deft - 50um						
Machine	Resin	**Print**	Infill	Gcode	Advanced

| Layer Height:	0.05	mm	Bottom Lift Distance:	15	mm
Bottom Layer Count:	6		Lifting Distance:	10	mm
Exposure Time:	8	s	Bottom Lift Speed:	32	mm/min
Bottom Exposure Time:	70	s	Lifting Speed:	45	mm/min
Light-off Delay:	0	s	Retract Speed:	150	mm/min
Bottom Light-off Delay:	0	s			

If all the numbers match, then you need to configure for support before you can create files. This is critical as Phenom L is a large format LCD printer that requires different support size than small format LCD printer.

It is very easy to configure Chitubox for Phenom L.

First you click the upper right corner Support icon

Immediate right under that icon, you will see below settings. Select Heavy (not Medium or Light)

Z Lift Height(mm)   5.00

Support Setting:

☐ Light
☐ Medium
☐ Heavy
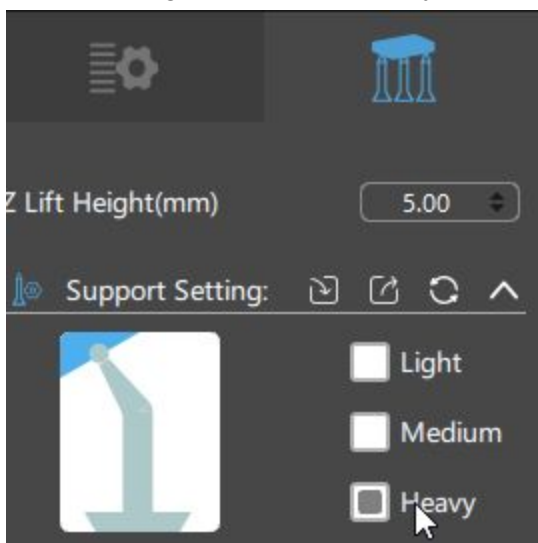
Then click the Raft button which is right under the above pic and <u>set Raft Shape to None</u>

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Your Chitubox is ready to create files to print Deft resin on Phenom L

Software – Operation

For Chitubox manual, you can download it here
English version https://forum.chitubox.com/?attach-download-60.htm
French version: https://forum.chitubox.com/?attach-download-69.htm

There is an online tutorial done by John at VFXforge that you can watch here:
https://www.youtube.com/watch?v=rAqCdJuIvcA&list=PLBgYijDrKgjh51y21YPUl2L2S7cY2FJiq

Do not change the settings for support or slicing tho. Those have to match our recommendation for Phenom L from the above.

How to prepare files for printing

For detail Chitubox operation, please see above. Once you have your model set up in Chitubox with good supports and orientation, you can export the model as a file for printing.

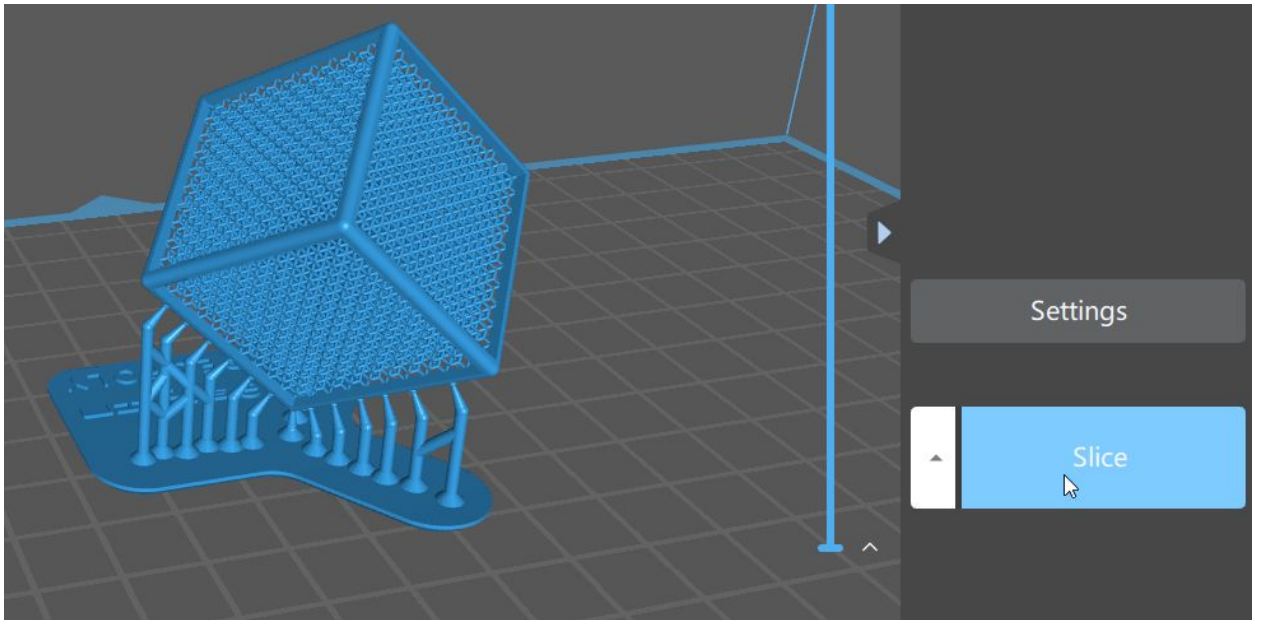You can use this model stl file as a test:
https://drive.google.com/open?id=1EdoWH-uqsLfBRgirZRUrcpakDrFMWruJ

This model does not require support to print successfully.

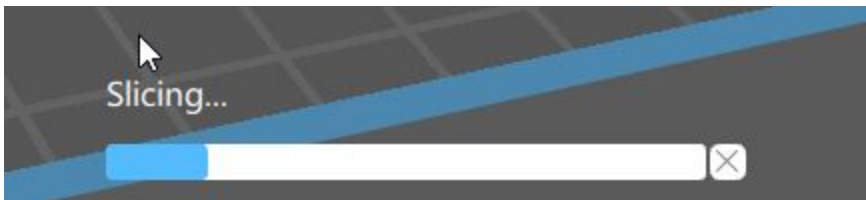To create the CBDDLP file for printing
-    Make sure you are in the control mode (see upper right corner)
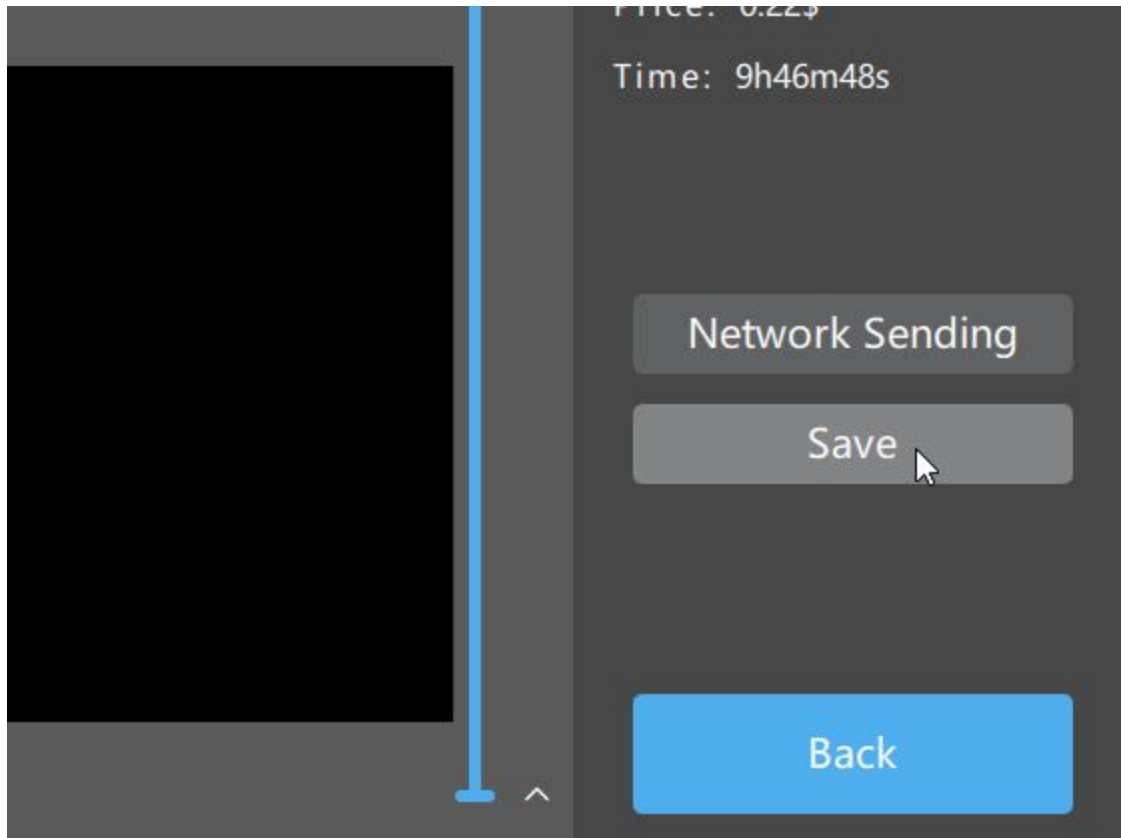
- Click Slice at the lower right corner.

- You will see slice progress bar at the lower right part of your screen
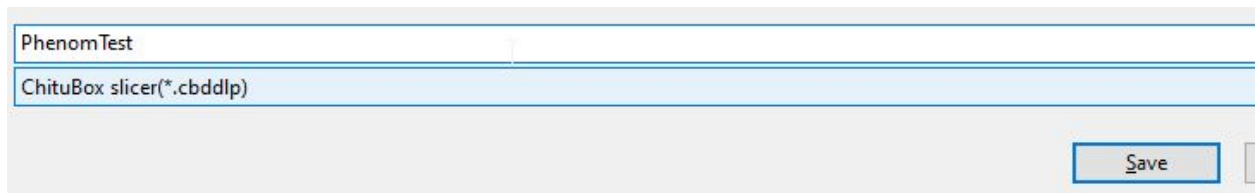

This can take a while.

When it is done, the right side of screen will change to this:

Time: 9h46m48s

Network Sending

Save

Back

You could use the slider to check each layer. The Save function button shown here allows you to save to CBDDLP format. Click that button and you will get this dialog:

PhenomTest

ChituBox slicer(*.cbddlp)

Save

Copy this file to the included USB drive and insert that drive to Phenom L for printing.