

# **ChiTu L M1**

# **Manual**

CBD-Tech

Controller Board

## Release Version

First edition

Issued in May 2020

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- 2) The serial number of this product is ambiguous or lost.

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## Safety Information

### Electrical safety

- To avoid possible electric shock and serious damage, please unplug the power cord of the printer or controller board from the power socket before any operation.
- When you want to add a hardware device to the system or remove the hardware device from the system, be sure to connect the cable of the device before connecting the power cord.
- Before you connect or disconnect any cables from the controller board, make sure that all power cords have been unplugged in advance.
- Make sure that the voltage setting of the power supply has been adjusted to the voltage standard used in the country / region. If you are unsure of the supply voltage in your area, please ask the nearest local power company staff.
- If the power supply is damaged, do not try to repair it by yourself. Please refer it to professional technical service personnel.

### Operational safety

- Before you install the controller board and add hardware devices, be sure to read the relevant information provided in this manual in detail.
- Before using the product, make sure that all cables and power cords are properly connected. If you find any major flaws, problems or loopholes, please contact your dealer as soon as possible.
- In order to avoid electrical short-circuits, be sure to store all unused screws, paper clips, and other parts, and do not leave them on the controller board or printer.
- Dust, moisture and severe temperature changes will affect the service life of the controller board, so try not to place them in these places.
- Do not place the main unit of the printer in a place prone to shaking.
- If you have any technical problems in the use of this product, please contact a professional technician.

## About this user manual

The product manual contains all the information you need when installing the CBD-Tech ChiTu L M1 series controller board.

### User manual layout

The user manual is composed of the following chapters:

- Chapter 1: Introduction to the hardware structure

In this chapter, you can find many excellent features of ChiTu L M1 series controller boards that offered by ChiTu systems. With concise and easy-to-understand instructions, you can quickly master the various features of the ChiTu L M1 series.

- Chapter 2: Software Function Description

This section describes how to use each button in the firmware program to control the controller board. In addition, the use timing and parameter setting of each setting value of the firmware program will be introduced in detail.

- Chapter 3: After-sales support

This chapter mainly introduces the official channels for product after-sales and technical support.

### Conventions used in this guide

In order to ensure that you complete the controller board settings correctly, please pay attention to the special meanings of the following symbols.



DANGER/WARNING: remind you to pay attention to your own safety when doing a certain job.



CAUTION: Remind you to take care not to damage the controller board components when doing a certain job.



IMPORTANT: This symbol indicates that you must complete the installation or configuration of one or more software and hardware in the manner described in the manual.



NOTE: Provide tips and other additional information that will help you complete a job.

## Where to find more information

You can get the product information you use and the update information of software and hardware through the two channels provided below.

### 1. CBD-Tech website

You can go to official website: <http://www.cbd-3d.com> to get all kinds of information about ChiTu Systems products.

### 2. Other documents

In addition to the standard accessories listed in this manual, other documents may be included in your product packaging box, such as the product warranty document attached by the dealer.

Caution! This product enjoys a one-year product warranty period. If you tear or replace the original factory warranty serial number label, you will cancel the warranty rights and will not provide maintenance services.

## Packing list

Please check the package once you get it, whether all the item listed below are complete.

Item	Description
<b>Controller Board</b>	ChiTu L M1 Series
<b>Touch Screen</b>	2.8/3.5/4.3/5.0/7.0 inch
<b>FFC Cable</b>	0.5-40 FFC
<b>Others</b>	User manual、Connector

- If any of the accessories listed above are damaged or missing, contact your dealer as soon as possible.
- The above illustrations are for reference only, the actual product specifications may vary depending on the model.

## Specification list

<b>Basic Information</b>	<b>Model</b>	ChiTu L M1
	<b>Time to market</b>	2020
<b>Parameter Information</b>	<b>Size*(mm)</b>	120 * 85 * 20
	<b>Weight(g)</b>	75
	<b>Touch Screen Size(inch)</b>	2.8/3.5/4.3/5.0/7.0
	<b>Supported Panel(inch)</b>	Tianma-TM089CFSP01(8.9 inch 4K Mono)
	<b>Microprocessor Chip</b>	ARM STM32F4 Series
	<b>Stepper Motor Chip</b>	Trinamic TMC2209
	<b>Flash Memory Chip</b>	64M EtronTech EM Series
	<b>eMMC</b>	4GB eMMC 5.1
	<b>Voltage/Current</b>	12~24V 5~12A
<b>Other Information</b>	<b>Environmental parameters</b>	/
	<b>LCD Resin Panel</b>	1 port, type MIPI
	<b>USB</b>	1 port, USB 2.0 Type-A
	<b>Ethernet</b>	1 port
	<b>Others</b>	/
	<b>Recommended format</b>	CHITUBOX
	<b>Supported format</b>	ctb
	<b>Firmware version</b>	Subject to actual batch



Specifications are subject to change without notice.



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# Summary

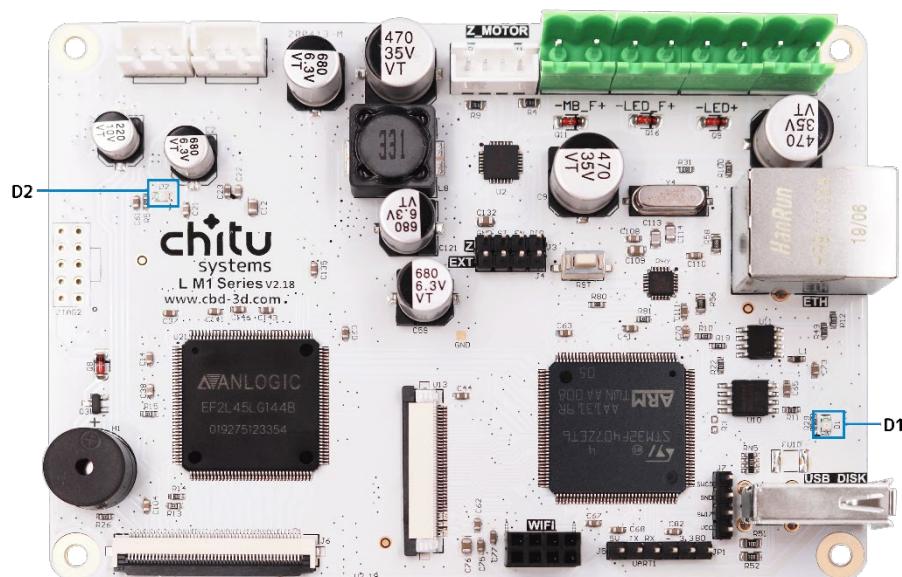
## Read first

The integrated circuits of board are easily damaged by static electricity. Be sure to make the following precautions before you change any setting:

- Before installing the controller board, please put it in an anti-static mat or anti-static bag.
- When handling the controller board, avoid touching any metal leads or connectors
- It is best to wear an electrostatic discharge (ESD) wrist strap when handling electronic components such as a controller board. If you do not have an ESD wrist strap, keep your hands dry and first touch a metal object to eliminate static electricity.
- Prior to installation, make sure the chassis is suitable for the controller board.
- Prior to installation, do not remove or break controller board S/N (Serial Number) sticker or warranty sticker provided by your dealer. These stickers are required for warranty validation
- Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the controller board or other hardware components.
- When connecting hardware components to the internal connectors on the controller board, make sure they are connected tightly and securely
- To prevent damage to the controller board, do not allow screws to come in contact with the controller board circuit or its components
- Make sure there are no leftover screws or metal components placed on the controller board or within the printer casing.
- Turning on the power during the installation process can lead to damage to system components as well as physical harm to the user
- If you use an adapter, extension power cable, or power strip, ensure to consult with its installation and/or grounding instructions

## Standby power LED

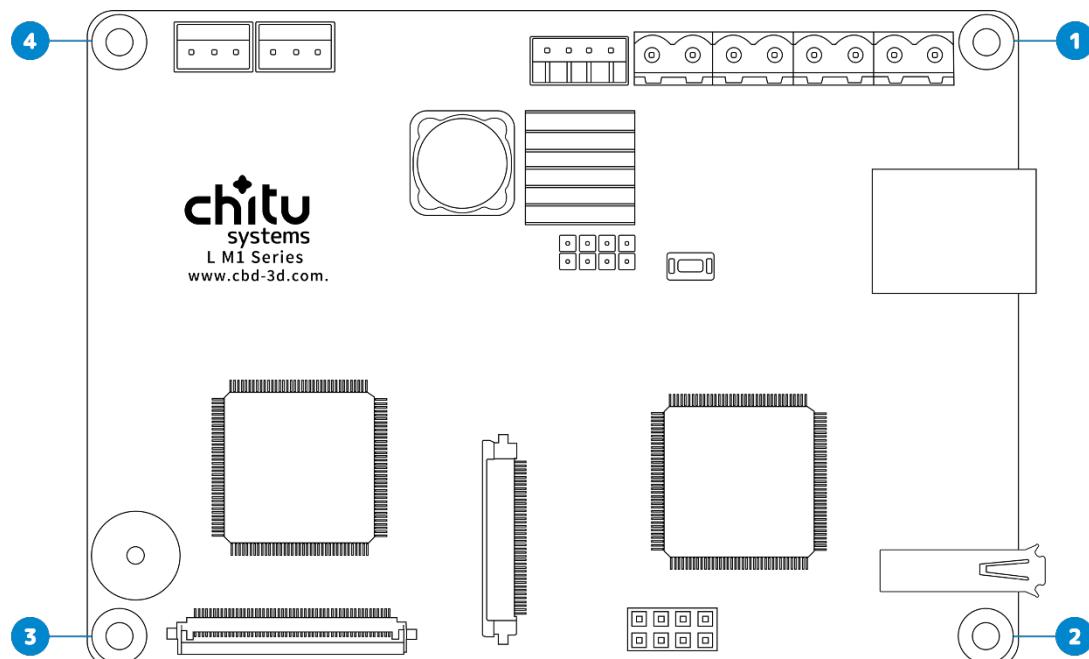
The controller board comes with a standby power LED that lights up to indicate that the system is ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any controller board component. The illustration below shows the location of the onboard LED



## 1.1 Controller board overview

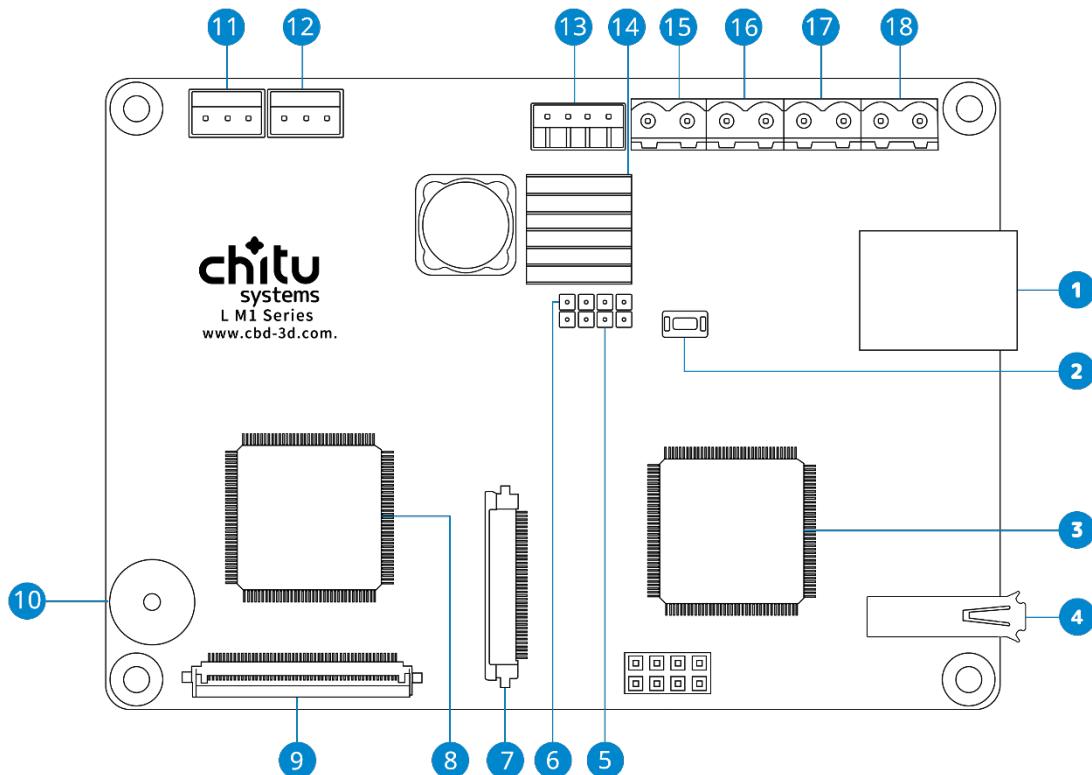
### 1.1.1 Screw holes

Place 4 screws into the holes indicated by circles to secure the controller board to the chassis.



Do not over tighten the screws! Doing so can damage the controller board.

## 1.2 Controller board Layout



NO.	Name	NO.	Name
1.	Ethernet port	14.	Heat sink
2.	Reset button	15.	Mainboard fan port
3.	ARM STM32F4 series CPU	16.	UV LED fan port
4.	USB 2.0 port	17.	UV LED port
5.	External motor driver pin	18.	Power supply
6.	Z motor driver pin		
7.	TFT resistive touch screen		
8.	ANLOGIC EL2F series FPGA chip		
9.	LCD resin panel		
10.	Buzzer		
11.	Z endstop (minimum position)		
12.	Z endstop (maximum position)		
13.	Z motor		

## 1.3 Component overview

### 1.3.1 Power supply

This port is for power supply for the entire controller board.

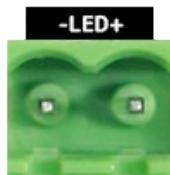


#### Notification:

The power supply voltage should be 12V~24V. The board may not work when voltage under 12V, and there will be a risk in burned when voltage over 24V.

### 1.3.2 UV LED

This port is for control and signals the LED light device connected.

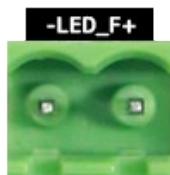


#### Notification:

This port output is the same as the board input voltage, and:  
The maximum current must NOT exceed 3A (batch before 2020 May 1st)  
The maximum current must NOT exceed 8A (batch before 2020 May 1st)

### 1.3.3 UV LED fan

This port is for control and signals the LED light fan device connected.

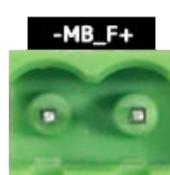


#### Notification:

This port output is the same as the board input voltage.  
The maximum current must NOT exceed 2A.

### 1.3.4 Mainboard fan

This port is for control and signals the mainboard fan connected.



#### Notification:

This port output is the same as the board input voltage.  
The maximum current must NOT exceed 2A.

### 1.3.5 Z stepper motor

This port is for control and signals the Z-axis stepper motor connected.



Pin Name/Pin Tag	Number	Definition	Description
Z Motor (Z Motor)	1	1B	Coil 1 end B
	2	1A	Coil 1 end A
	3	2A	Coil 2 end A
	4	2B	Coil 2 end B

### 1.3.6 Z+ end stop

This port is for control and signals the Z-axis maximum end stop connected.



Pin Name/Pin Tag	Number	Definition	Description
Z+ Endstop (Maximum position) (Z+)	1	+ (VCC)	Power Output
	2	- (GND)	GND
	3	S	Signal pin



Please contact official CBD-Tech support before using this interface to confirm if the current board or firmware supports this port.

### 1.3.7 Z- end stop

This port is for control and signals the Z-axis minimum end stop connected.



Pin Name/Pin Tag	Number	Definition	Description
Z- Endstop (Minimum position) (Z-)	1	+ (VCC)	Power Output
	2	- (GND)	GND
	3	S	Signal pin

### 1.3.8 External Z motor driver pin (Common cathode, 3.3V)

This port is for control and signals the external Z-axis stepper motor connected.



Pin Name/Pin Tag	Number	Definition	Description
External Z Motor Driver Pin (Z)	1	DIR	Direction
	2	EN	Enable
	3	ST (STEP/PUL)	Step/Pulse
	4	GND	GND



Please contact official CBD-Tech support before using this interface to confirm if the current board or firmware supports this port.

### 1.3.9 External motor driver pin (Common cathode, 3.3V)

This port is for control and signals the external Z-axis stepper motor connected.



Pin Name/Pin Tag	Number	Definition	Description
External motor driver pin (EXT)	1	DIR	Direction
	2	EN	Enable
	3	ST (STEP/PUL)	Step/Pulse
	4	GND	GND



Please contact official CBD-Tech support before using this interface to confirm if the current board or firmware supports this port.

### 1.3.10 LCD resin panel (MIPI port)

This port is for control and signals the LCD panel connected.



### 1.3.11 TFT Resistive touch screen

This port is for control and signals the resistive touch screen port connected.



### 1.3.12 USB 2.0

This port is for read the USB 2.0 connected.



### 1.3.13 Buzzer

This component will emit a "beep" sound to remind you of the completion of an operation or an abnormal error.



The timbre of buzzer maybe not the same because of the different batch.

### 1.3.14 Ethernet port

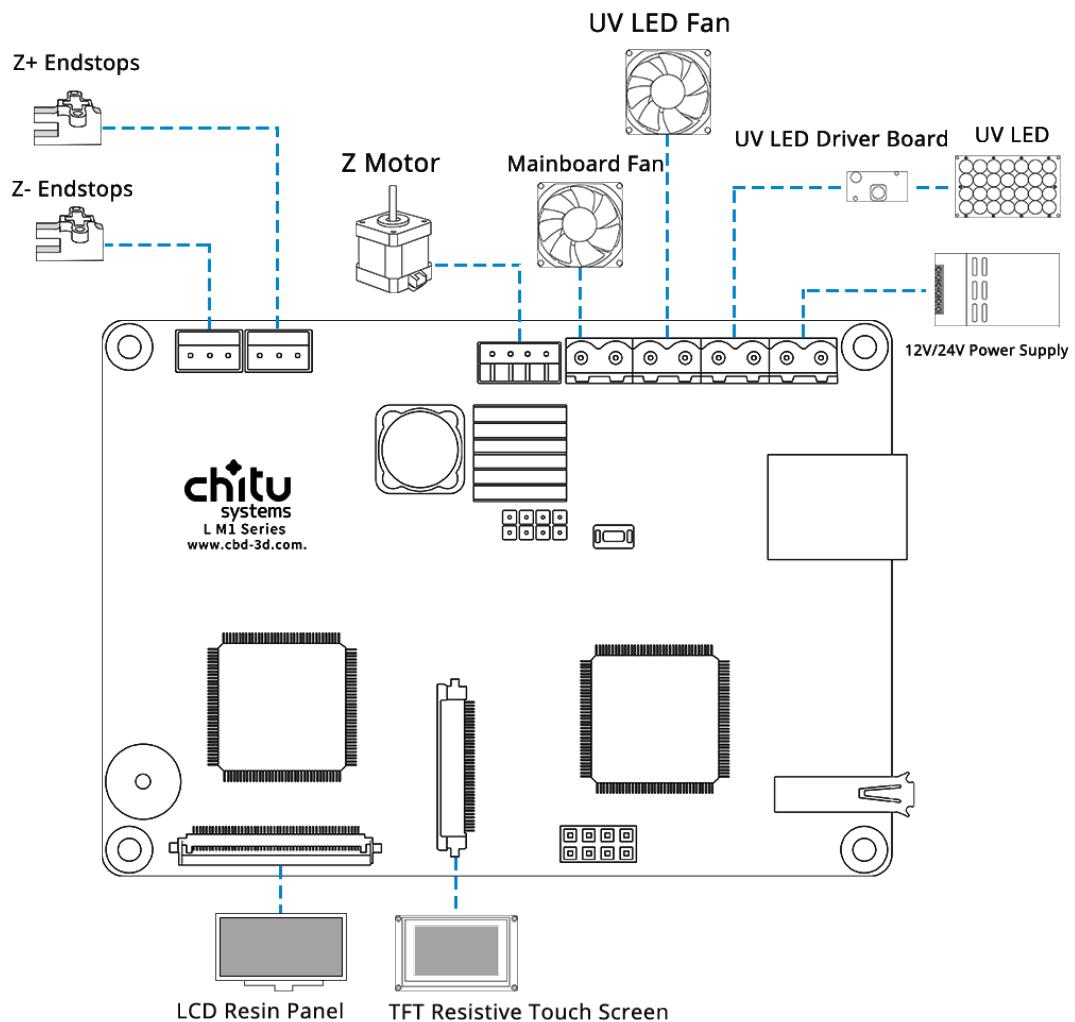
This port is for Ethernet connected.



LED picture	LED name	Status	Description
	Activity LED	Blinking (High Frequency)	Data activity
		Yellow	Sleep mode
	Link LED	Green	Connection succeeded
		Off	Connection failed

# Installation Flow

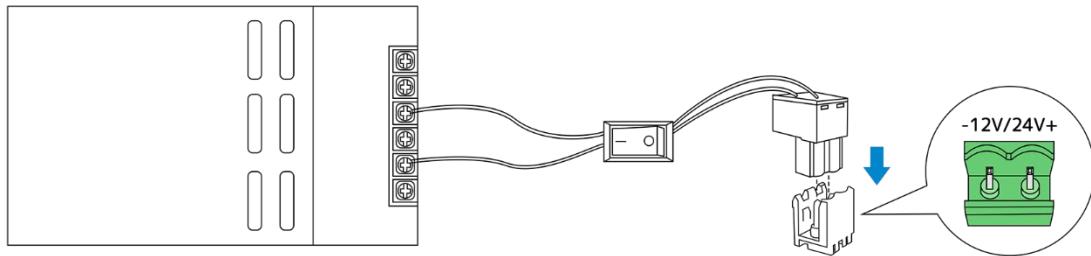
## 2.1 Installation overview



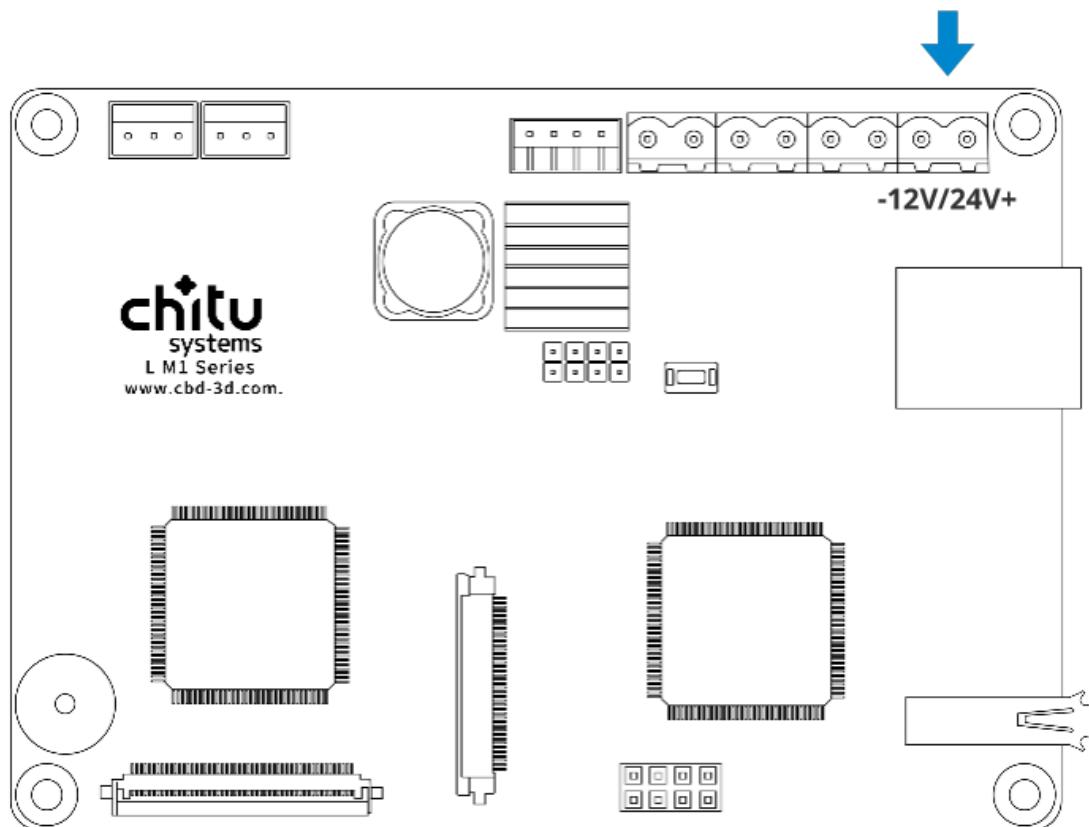
## 2.2 Regular installation

### 2.2.1 Installing power supply

As shown below, connect the power supply wire with “-12V/24V+” port.



As shown below, the arrow shows the where “-12V/24V+” on the board.

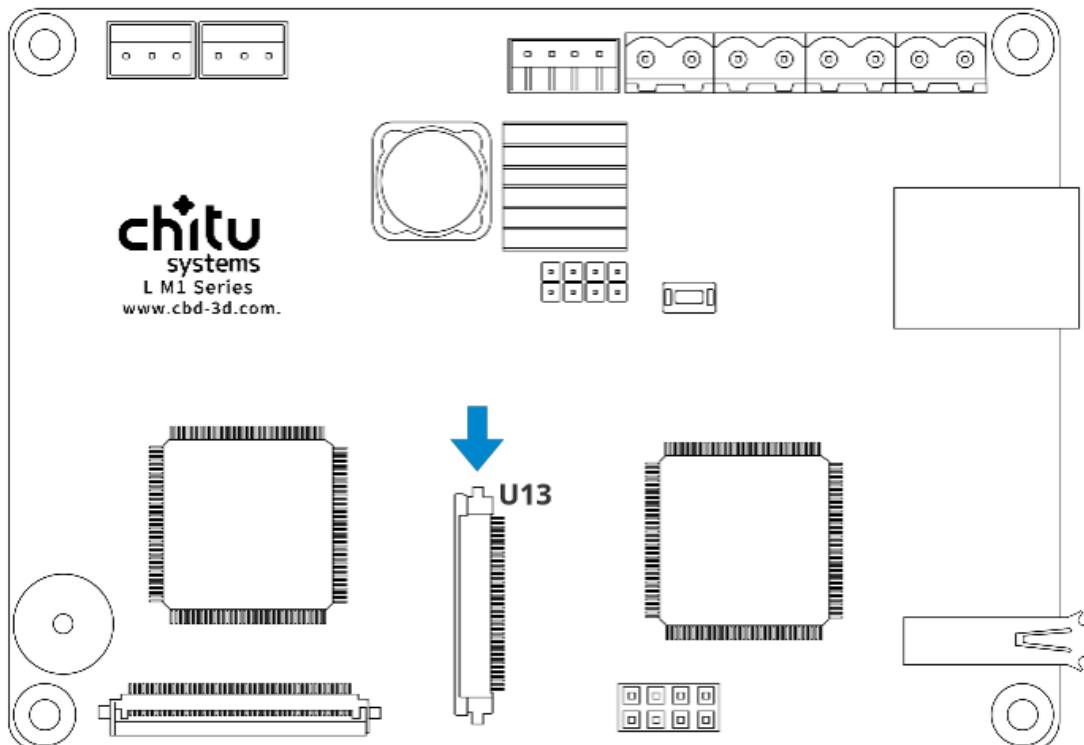


## 2.2.2 Installing touch screen (TFT Resistive)

As shown following steps, connect the touch screen cable (FFC cable).

- ①、Find the screen connector on the board

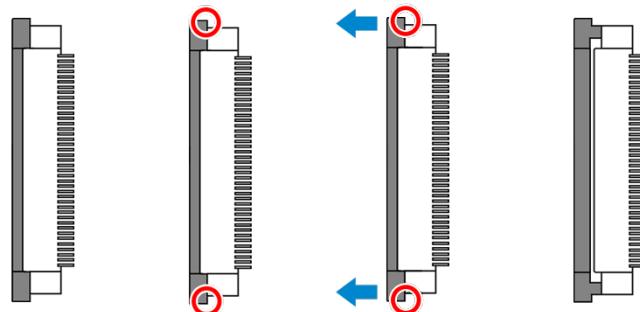
As shown below, “U13” on the board.



- ②、Pull out the black bar

As shown on ②, put your finger on each side of the black bar(mark as red), pull out the bar to follow the arrow direction, as shown on ③.

① Touch screen connector ② Side of the connector ③ Pull out the black bar ④ Connector opened

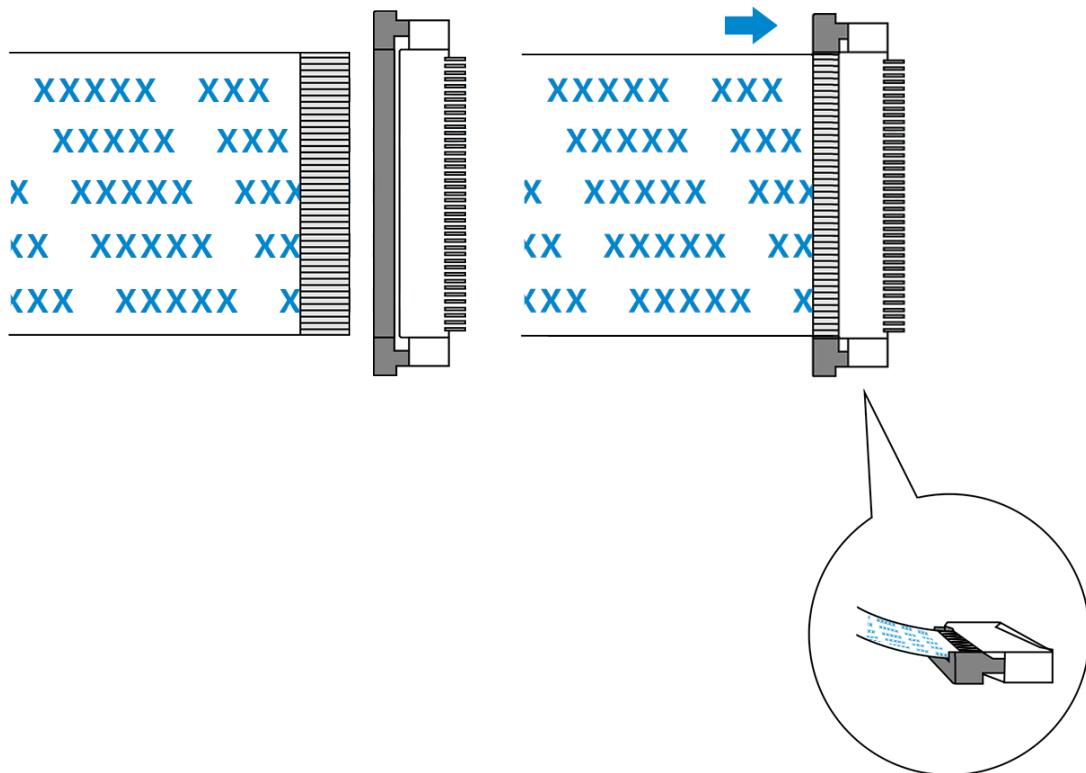


③、Insert the FFC cable

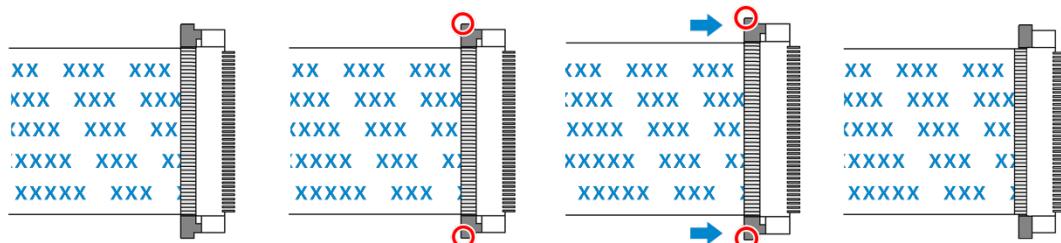
As shown below, put the FFC cable pin side towards up, stiffeners shielded side(usually the blue side) towards down, make sure to insert the cable all the way till it can't move forward anymore.

④、Close the black bar back

As shown on ②, put your finger on each side of the black bar(mark as red), push back the bar to follow the arrow direction, as shown on ③.



① Insert the FFC    ② Side of the connector    ③ Put in the black bar    ④ Connector closed



Please pull the cable again lightly to check if it is installed well.

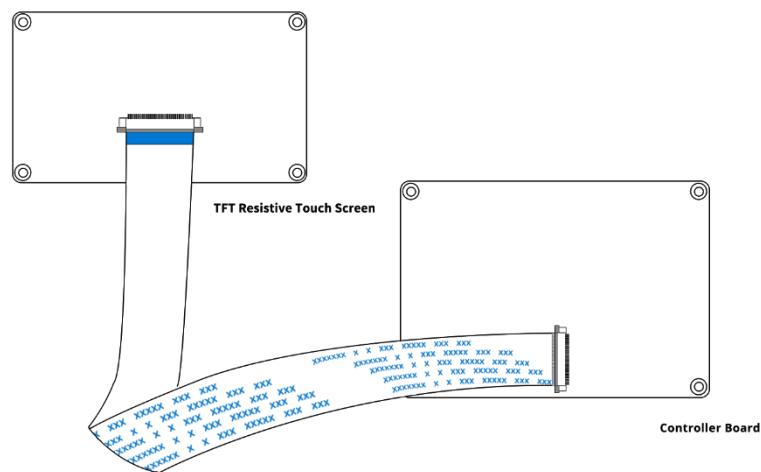
⑤、Connect the touch screen

Use the same way to connect the rest side of FFC cable with touch screen, on the contrary, stiffeners shielded side towards up and pin side toward down as usual.



Ensure that the stiffeners shielded side and pin side connect in the right way following the guide, or the touch screen will not work.

⑥、Installing finished

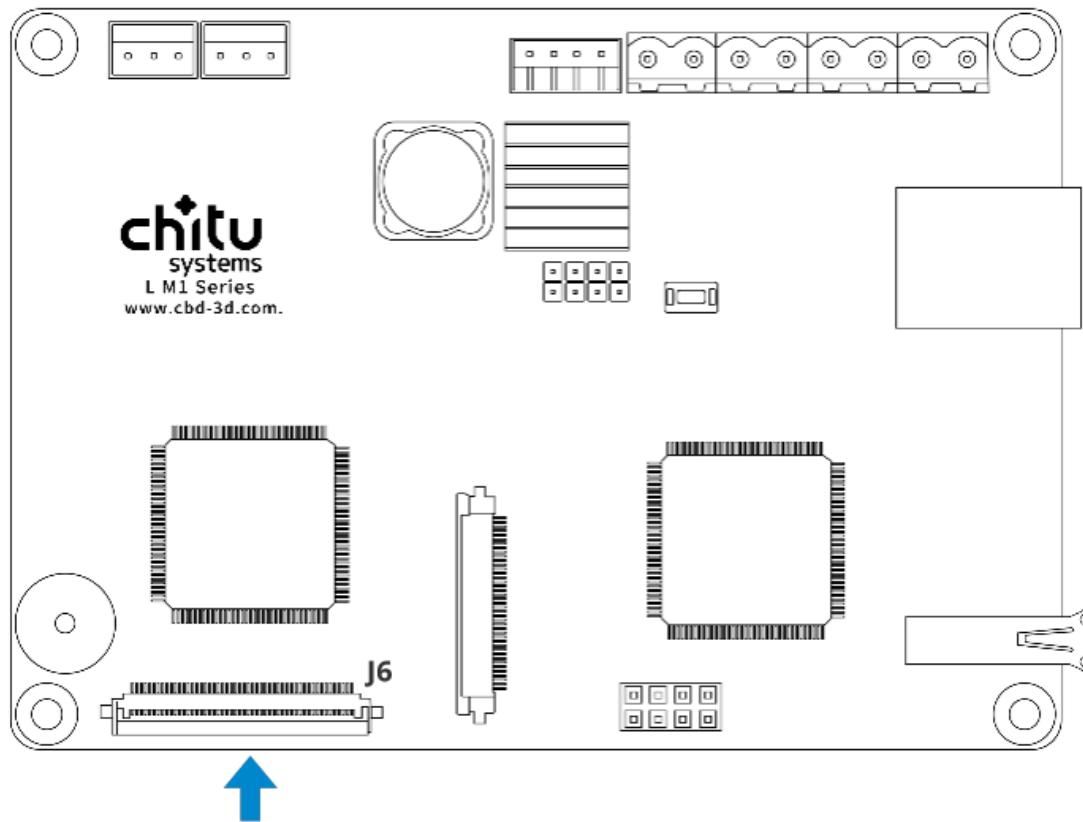


### 2.2.3 Installing the LCD panel (printing screen)

As shown following steps, connect the LCD panel cable(printing screen), as shown “J6” on the board.

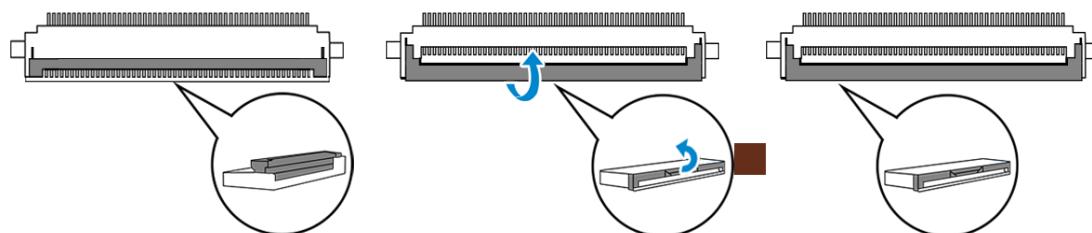
- ①、Find the LCD panel connector

As shown below, the “J6” on the controller board.



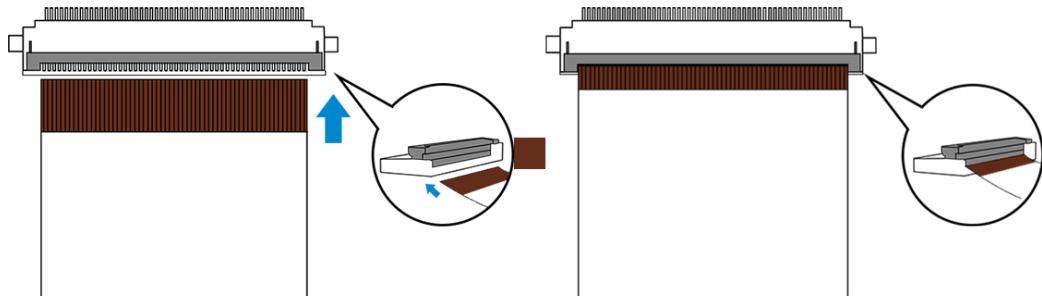
- ②、Open the cover of the connector

As shown below, put your thumbs on the cover and open it lightly.



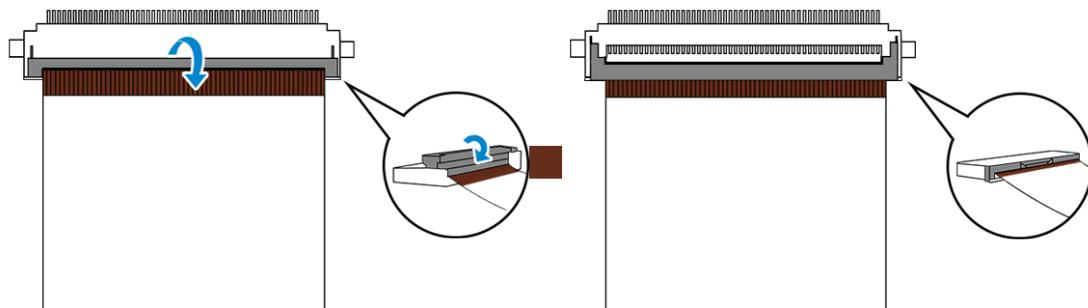
③、Insert the LCD panel cable.

Put the stiffeners shielded side (usually dark brown color) towards up, pin side towards the board, make sure to insert the cable all the way till it can't move forward anymore.



④、Close the cover of the connector

As shown below, press the cover slowly to close the connector.

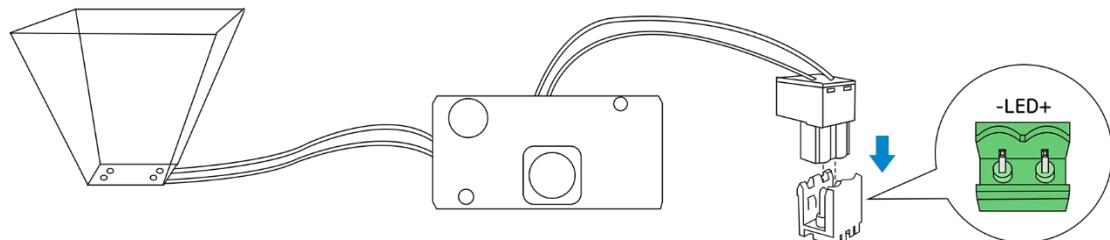


Please pull the cable again lightly to check if it is installed well.

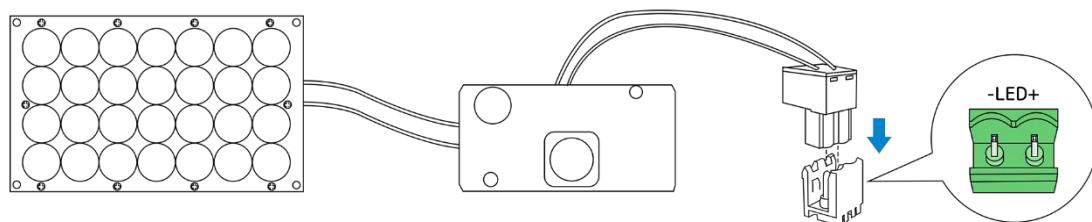
## 2.2.4 Installing UV LED light

Insert the 2 pins of the UV LED light into “-LED+” on the controller board, you can also install different light source as your demand.

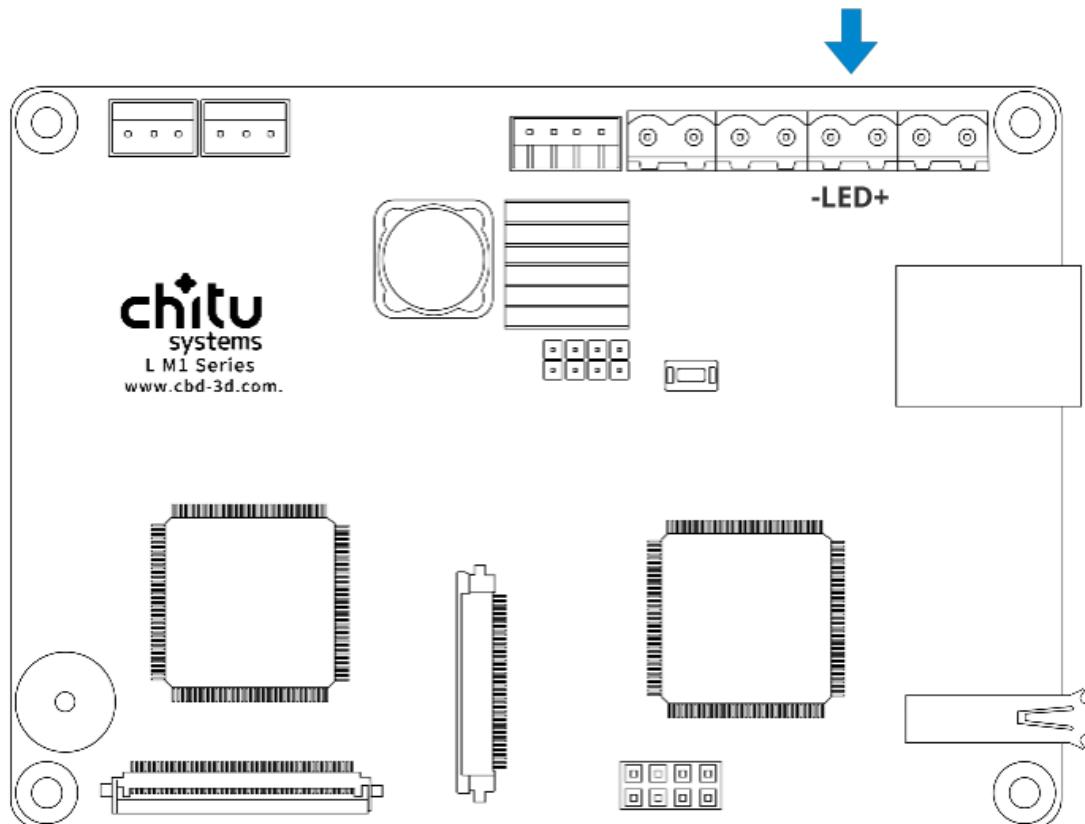
①、COB + Reflective Cup



②、Parallel LED array

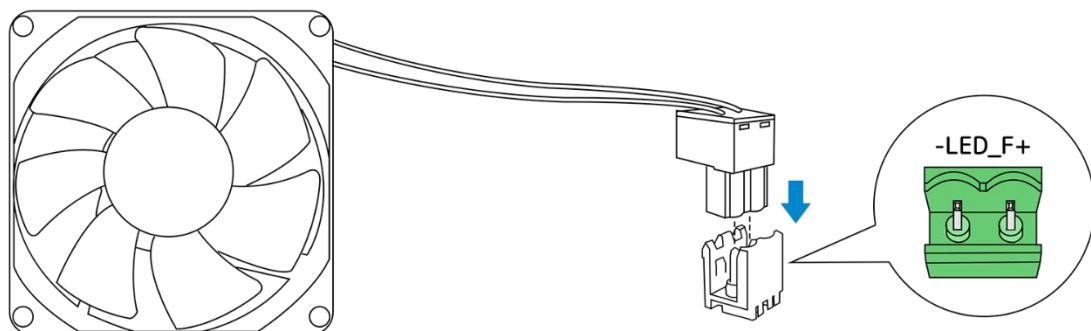


As shown below, the “-LED+” on the controller board.

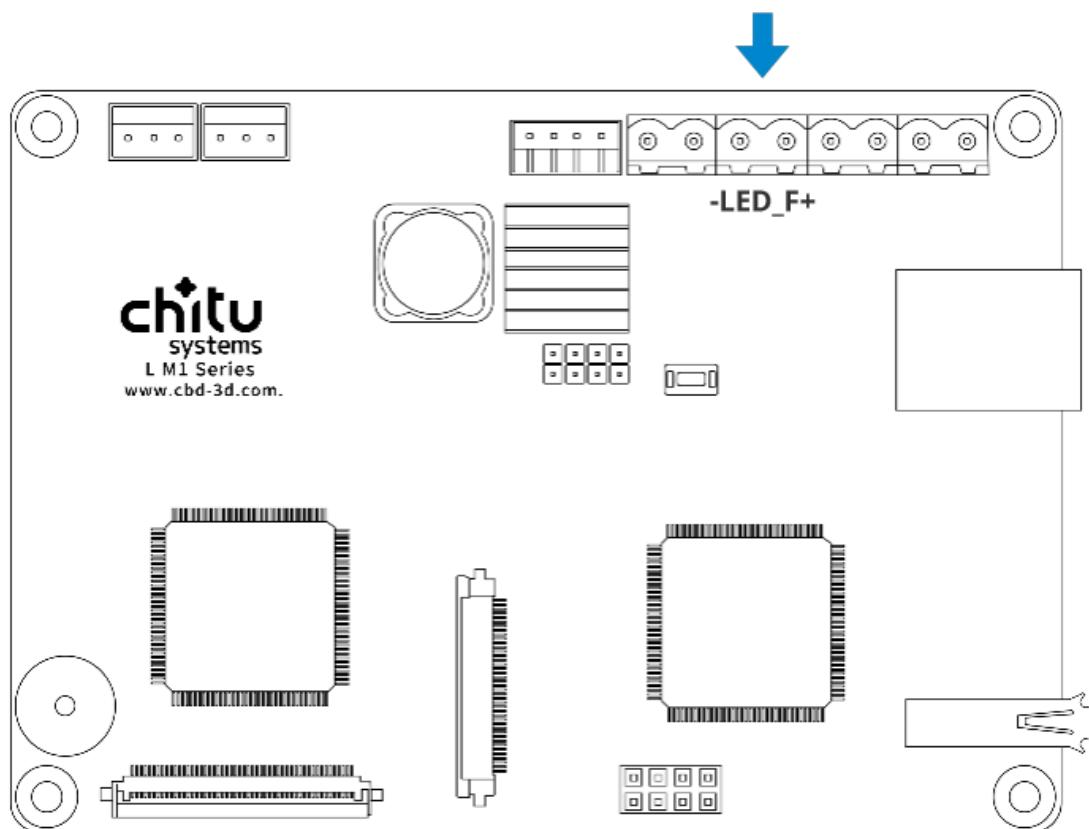


### 2.2.5 Installing UV LED fan

Insert the 2 pins of the UV LED light fan into “-LED\_F+” on the controller board.

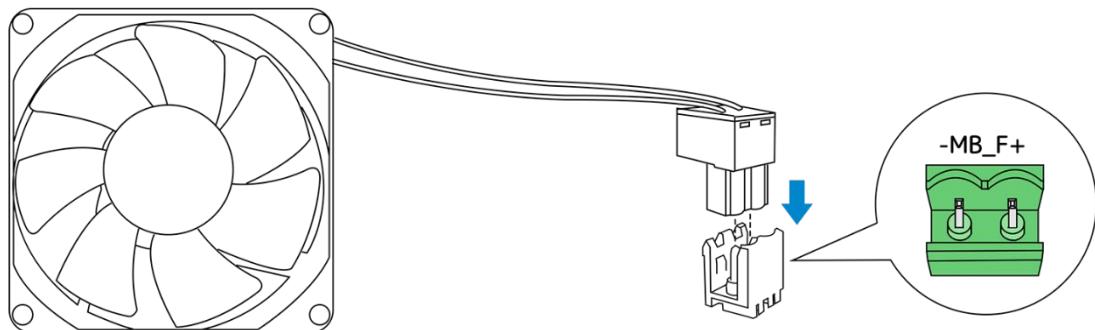


As shown below, the “-LED\_F+” on the controller board.

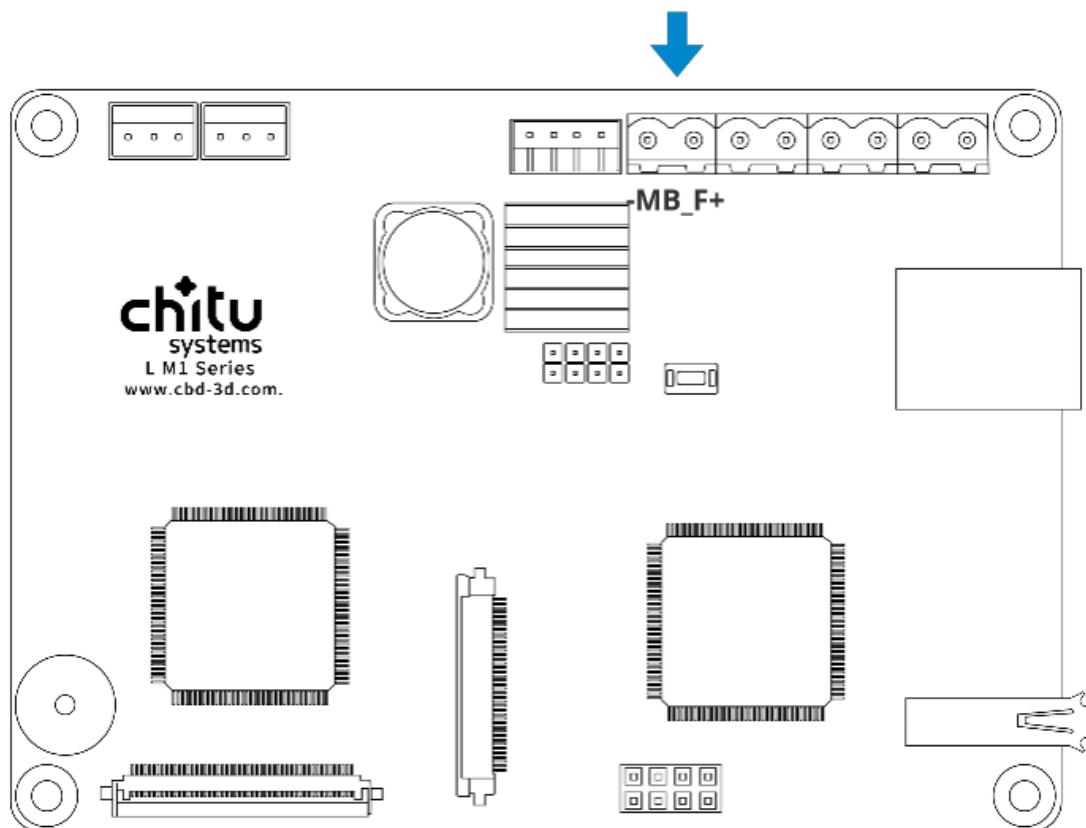


## 2.2.6 Installing controller board fan

Insert the 2 pins of the controller board fan into “-MB\_F+” on the controller board.

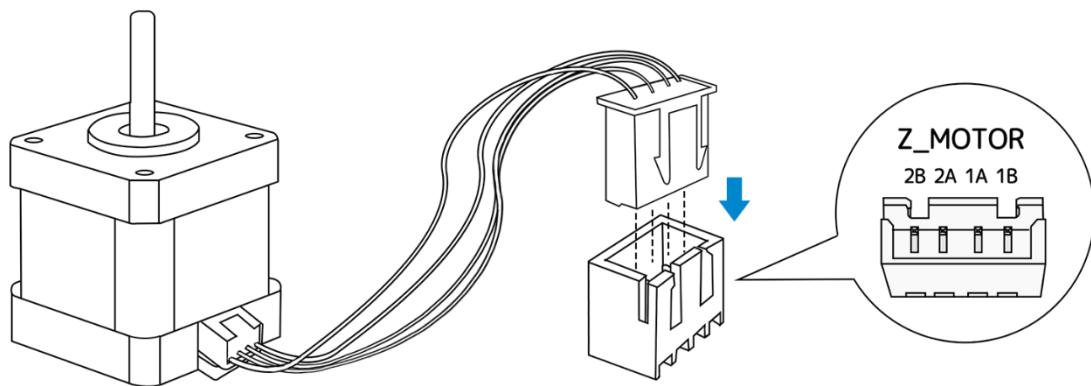


As shown below, “-MB\_F+” on the controller board.

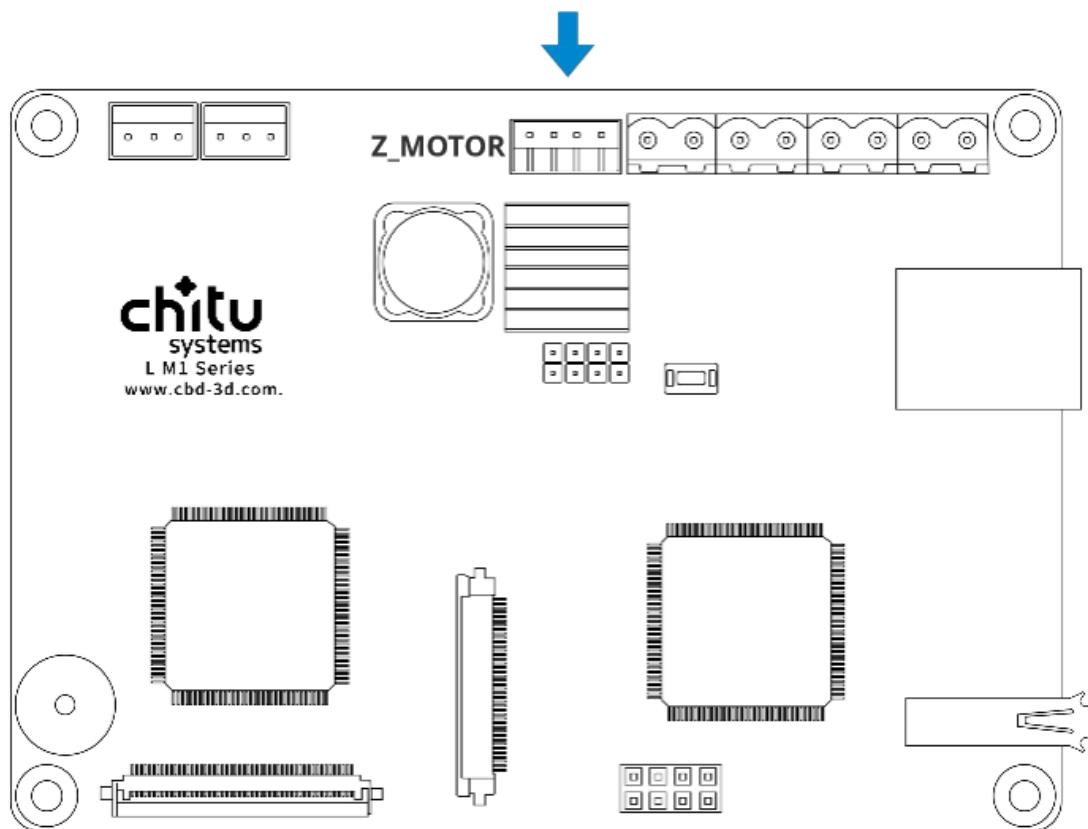


## 2.2.7 Installing Z stepper motor

Insert the 4 pins of the z stepper motor into “Z\_MOTOR” on the controller board.

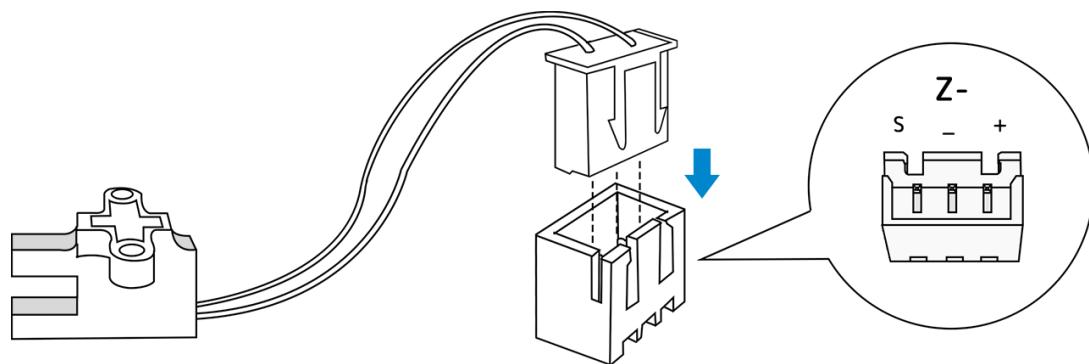


As shown below, the “Z\_MOTOR” on the controller board.

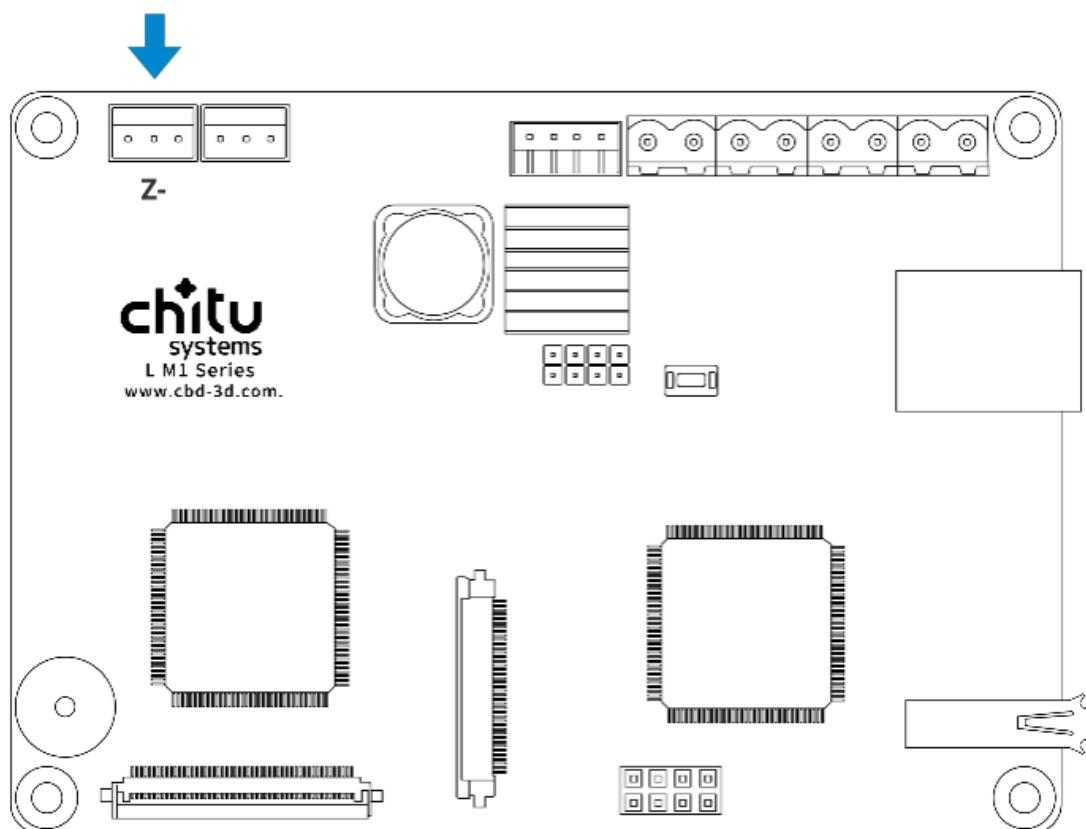


## 2.2.8 Installing Z-axis minimum end stop

Insert the 3 pins of the Z-axis minimum end stop into “Z-” on the controller board.



As shown below, “Z-” on the controller board.



## 2.4 Firmware update

### 2.4.1 Firmware file format overview

The following table shows several common files in the firmware update process. You can visit the official website of CBD-Tech ([www.cbd-3d.com](http://www.cbd-3d.com)) to get the firmware version corresponding to the controller board and download.

文件名	描述	用途
xxxxx.cbd	FPGA File	FPGA core function file
xxxxx.gcode	Parameter file	Part of the control parameter file of the printer
xxxxx.logo	Startup page	The startup page after the printer is turned on
UI_xxxxxx.bin	UI file	User interface of firmware program
update.lcd	Update file	The core function file of the firmware

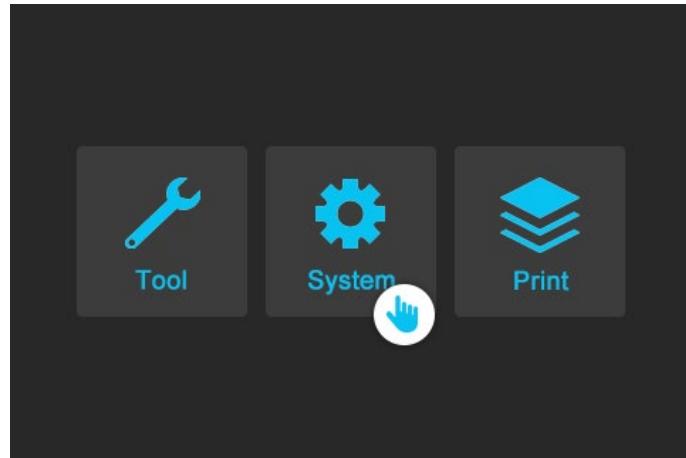


You can download the file you need instead of downloading all the files.

## 2.4.2 Firmware update process

- A) Check the current firmware version

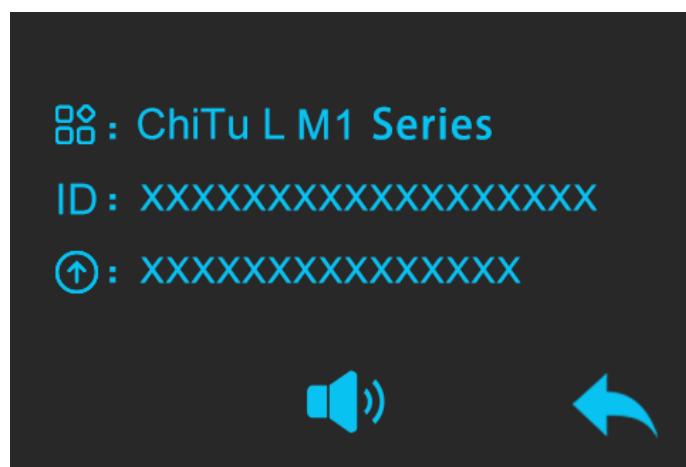
Open the 3d printer, click the “system” of the main page, you will enter the “system” page.



In the “system” page, click the “Information, you will enter “Information” page.



In the “Information” page, the info after  is the current firmware version.



B) Check the compatible board firmware

Please check the compatible firmware of your board on the official website [www.cbd-3d.com](http://www.cbd-3d.com), you can check info according to your board or ask customer support.



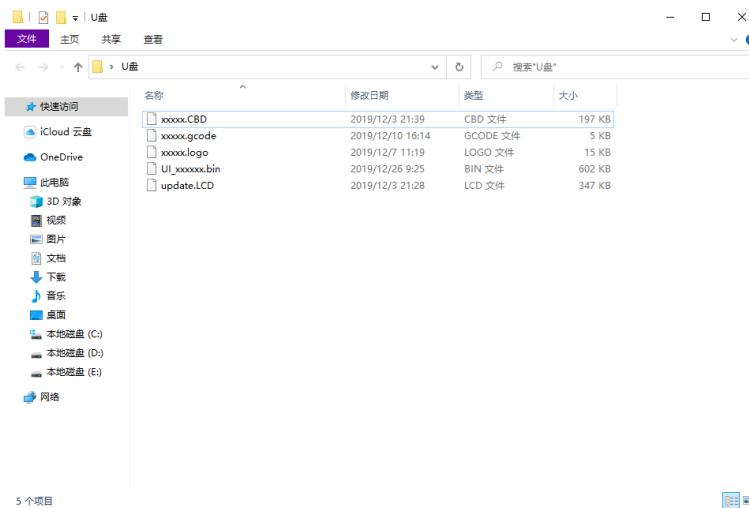
DO NOT upgrade any firmware that not compatible with your board.

C) Download the firmware files

Download the corresponding firmware base on your controller board. You can download it to your PC or laptop.

D) Import firmware file

Import the firmware update files into a blank U disk through your personal computer or laptop (the U disk should be empty or has been formatted). In order to ensure update process without any issue, please ensure that the U disk The remaining space is above 1G, and all files should be placed in the ROOT directory of the U disk.



Please use the U disk from genuine manufactures in case of update issue when updating.

E) Insert U disk

Power off the printer, Insert the U disk into your printer (or the USB interface of the board).

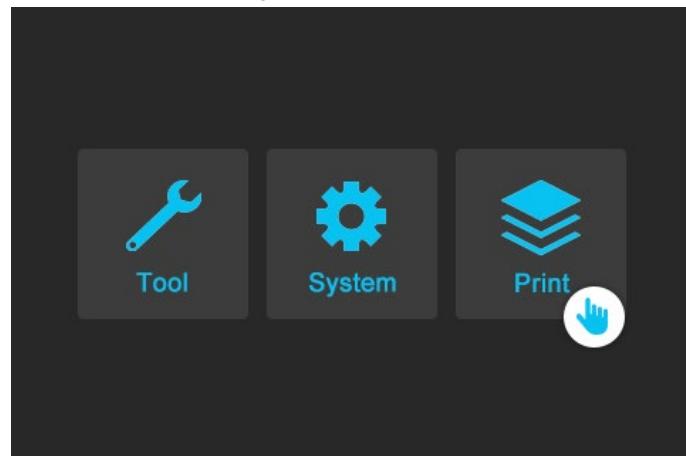
F) Update core firmware file

Turn on the printer, and it will automatically retrieve the file in the U disk. If the U disk contains the file "update.lcd", the printer will first read and load the file, and then upgrade the firmware. (If the current firmware version is same as the one in U disk, it will not update.)

There will emit twice "beep" sound to remind you of the completion of firmware updating.

## G) Update other files

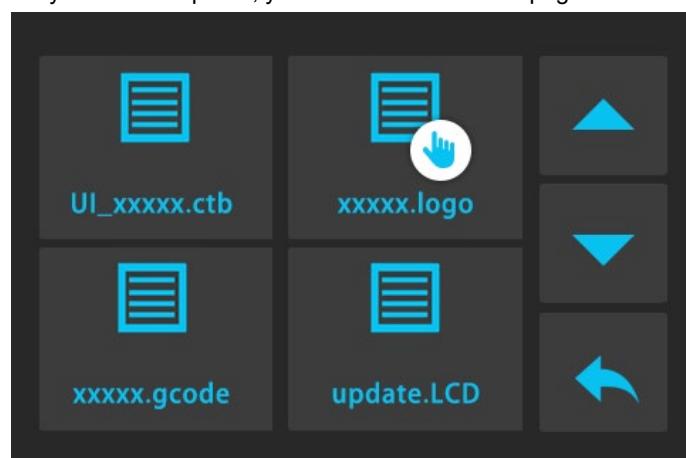
Click “Print” you will enter “file list” page



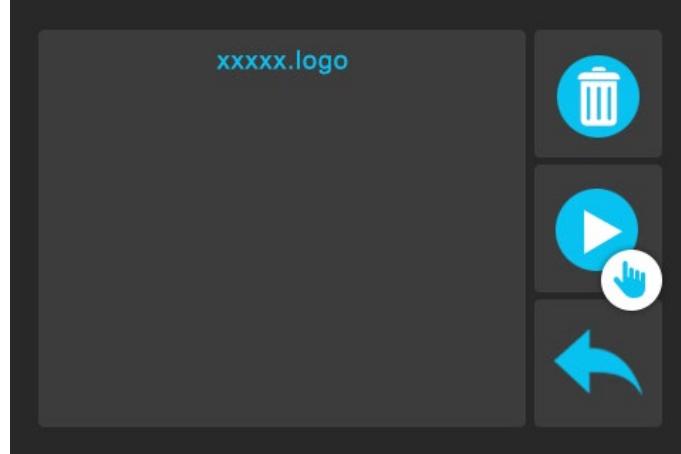
In this page you can see all the files and folders in the U disk.



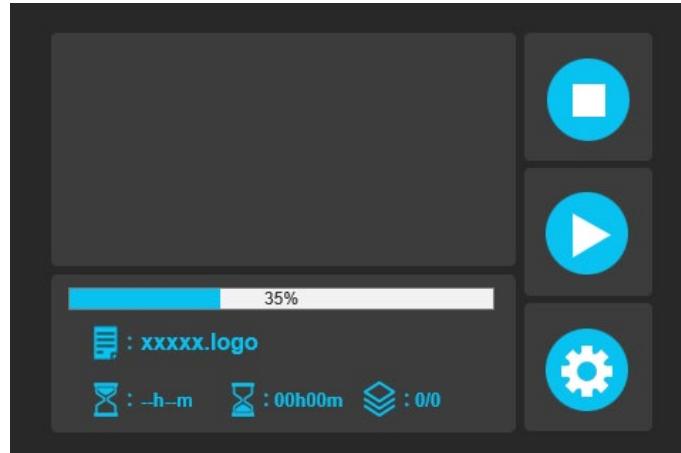
choose the firmware you want to update, you will enter “file info” page.



In “file info” page, print the file by clicking  button, the printer will read the file and start upgrade automatically.

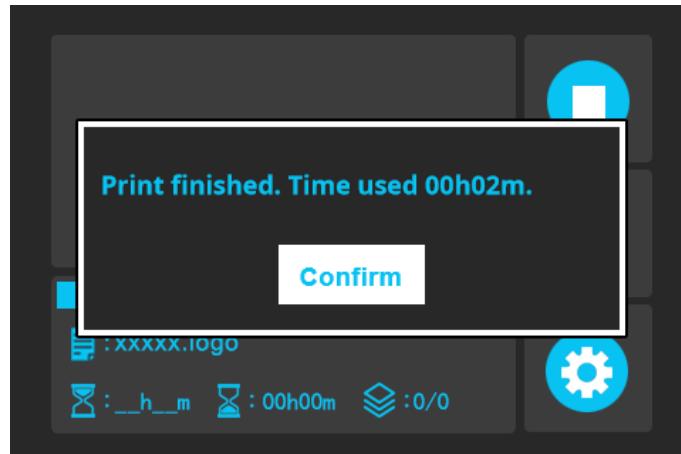


During the updating, please DO NOT click any button in case of updating failed.



Please make sure the power won't off during the updating firmware.

There will emit twice a "beep" sound to remind you of the completion of firmware updating. Restart the printer to check. (Same way for all the firmware format update.)



If you have updated core firmware file, you can follow 2.4.2 to check the current version info.

# User guide

## 3.1 Function list

The firmware program mainly provides four major functional modules include file management, printing control, component calibration, and system settings.

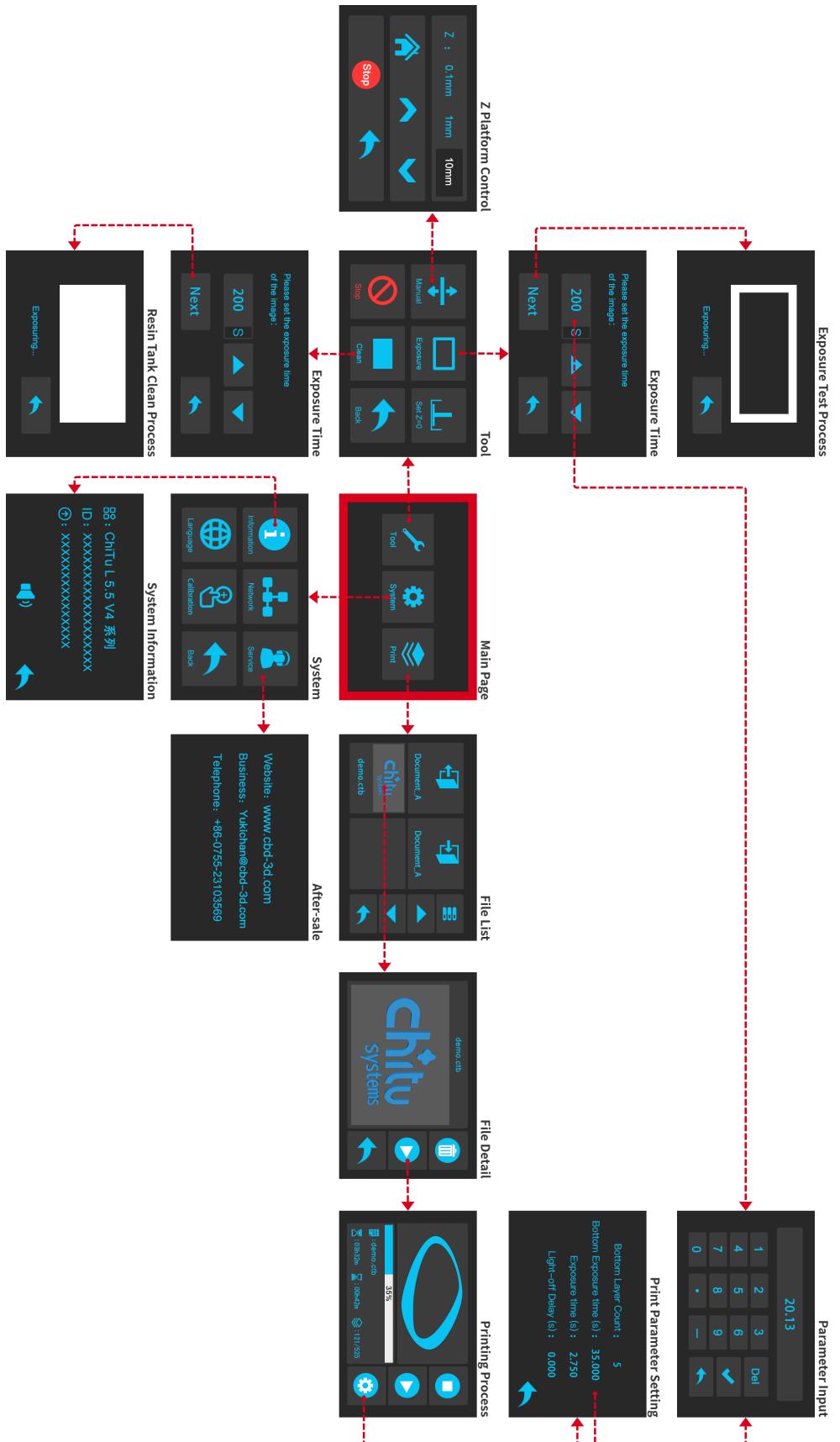
Functional modules	Description	Page
<b>File management</b>	U disk read	43-44
	File list display	43-44
	File deleted	46-47
	File preview	45
<b>Printing control</b>	Local printing	48-49
	Network printing	52-54
	Parameter setting	55-57
	Pause printing	50
	Resume printing	50
	Stop printing	51
	Clean	58-59
<b>Component calibration</b>	Z control	64-65
	Z reset	62-63
	Exposure test	60-61
<b>System settings</b>	Language Switch	66-67
	Beep on/off	68-69
	Systems info	70
	After sale info	71

## 3.2 Icon overview

Description of common icons in the firmware program

Icon	Description	Usage
	<b>Back</b>	Back to last page
	<b>Start</b>	Start printing a file, or continue the file printing process
	<b>Delete</b>	Delete a file
	<b>Stop</b>	Stop printing process
	<b>Pause</b>	Pause the printing process of the current model
	<b>Setting</b>	Enter to the settings page
	<b>Page up/increase</b>	In the file list page, click to view the list file on the previous page In the parameter settings page, click to increase the parameter value by one unit
	<b>Page down/decrease</b>	In the file list page, click to view the list file on the next page In the parameter settings page, click to decrease the parameter value by one unit
	<b>U disk file</b>	Means that the current file list is read from a USB flash drive
	<b>Local file</b>	Means that the current file list is read from local storage
	<b>Confirm button</b>	Confirm and save the entered value
	<b>Beep on button</b>	Current system prompt sound has been turned on, and can be turned off after clicking
	<b>Beep off button</b>	Current system prompt sound has been turned off, and can be turned on after clicking
	<b>Platform up</b>	Click it the platform will move one unit up (away from the resin tank)
	<b>Platform down</b>	Click it and the platform will move one unit down (close to the resin tank)
	<b>Reset</b>	Click it and the platform will move to the default height

### 3.3 Page structure



## 3.4 Page description

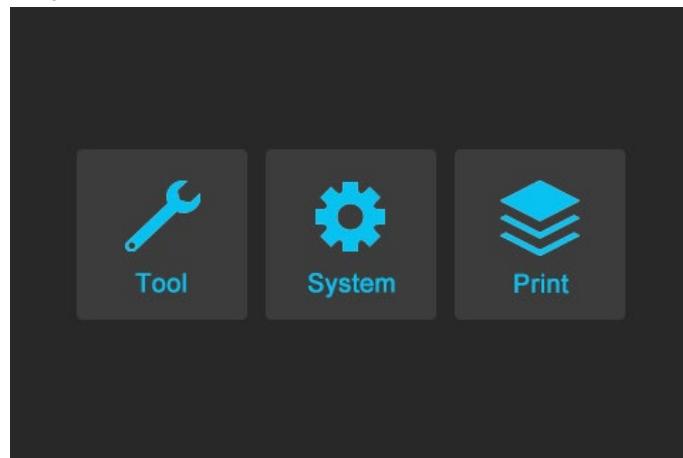
### 3.4.1 Main page

The first page after controller board start working

Tool: enter "Tool" page

System: enter "System" page

Print: enter "Print" page



### 3.4.2 Tool page

Include exposure test, component calibration etc.

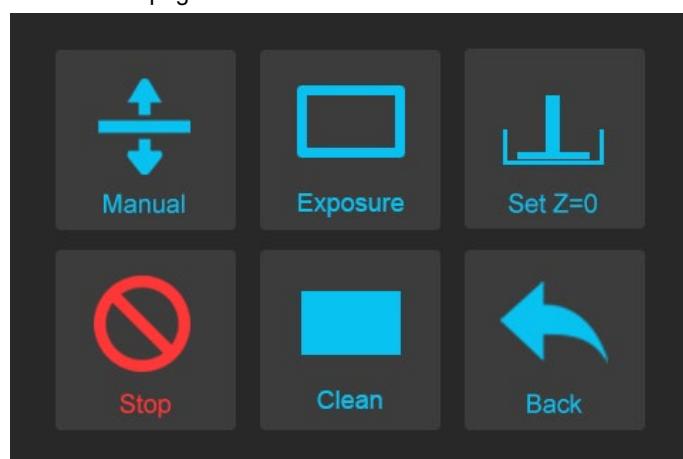
Manual: Enter "Move Z axis" page

Exposure: Enter "Exposure testing" page

Set Z=0: pop up window for Z to zero

Stop: to stop all current commands and mechanical movements

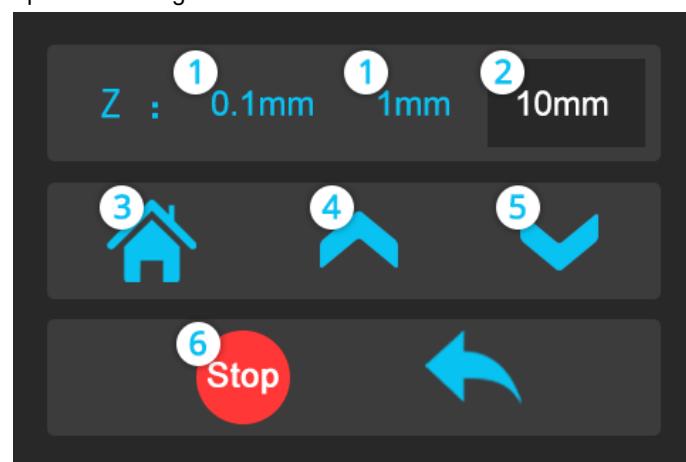
Clean: enter "Resin vat clean" page



### 3.4.3 Move Z axis page

Move Z(printing plate) with different distance by manual

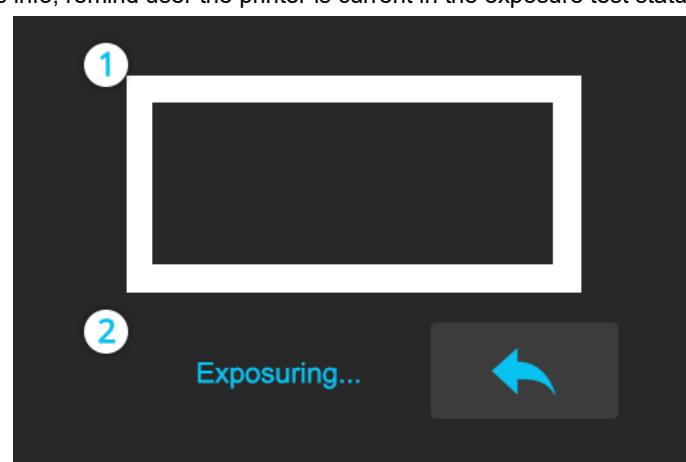
- ①: Unselected value unit of stepping travel
- ②: Unselected value unit of stepping travel
- ③: Reset the platform to default height you set.
- ④: Move Z up, Z axis will move up the current value unit you choose.
- ⑤: Move Z down, Z axis will move down the current value unit you choose.
- ⑥Stop: click to stop the Z moving



### 3.4.4 Exposure page

Tag ①: Exposure image, exposure image in test state

Tag ②: Status info, remind user the printer is current in the exposure test status.



### 3.4.5 Clean exposure time setting page

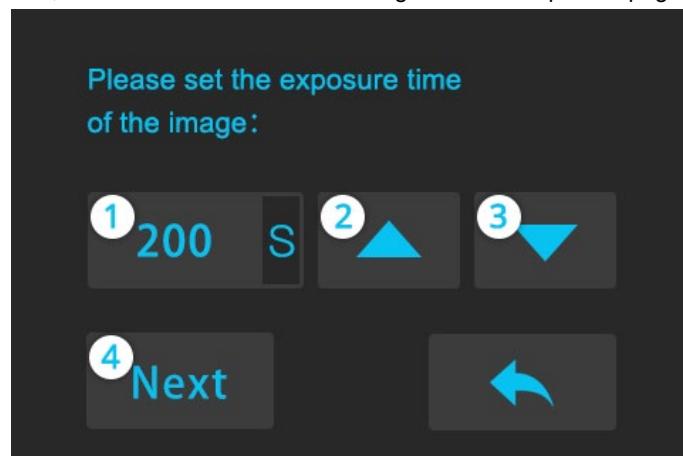
Exposure time setting for clean the resin vat

Tag ①: exposure time, is an integer, unit second and default setting is 200s, click to enter “parameter input” page.

Tag ②: increase “exposure time”, add one second every click.

Tag ③: decrease “exposure time”, cut one second every click.

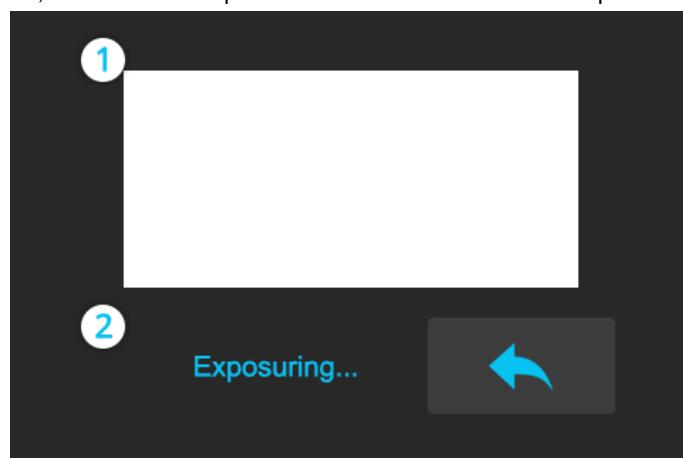
Tag ④: Next button, click will save the current setting and enter exposure page.



### 3.4.6 Clean page

Tag ①: Clean image, exposure image in vat clean state.

Tag ②: Status info, remind user the printer is current in the vat clean exposure status.



### 3.4.7 File list page

list the file and folders from local or U disk

Tag ①: Back to upper page, click to exit the current folder and return to upper page.

Tag ②: Enter to new folder, click to enter the folder.

Tag ③: Model or files, click to enter “file info” page.

Tag ④: Means the location of the file, click to switch the storage location.



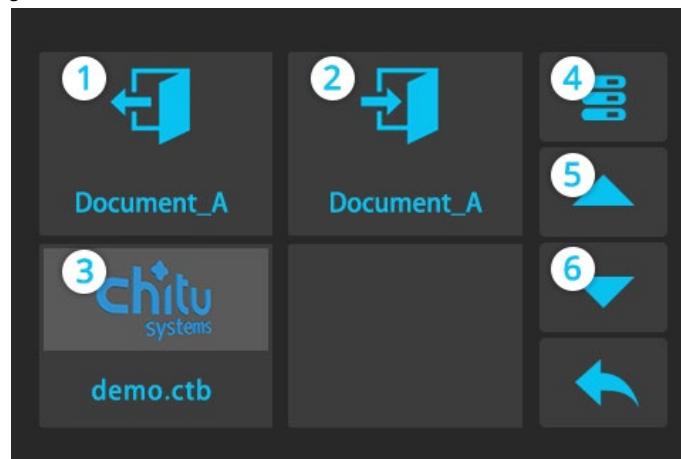
This icon means the file is read from the U disk.



This icon means the file is read from the local storage.

Tag ⑤: Last page, click to flash the current list and show the previous first four files or folders.

Tag ⑥: Next page, click to flash the current list and show the first four files or folders.



### 3.4.8 File info page

Display the detailed information of the file, you can delete, print the file in this page.

Tag ①: File name and file format;

Tag ②: Preview image, to display the file as 3D image or other forms;

Tag ③: Delete file, click to choose if delete the file;

Tag ④: Start printing, click to print the file;



### 3.4.9 Printing process page

Display the detailed information during printing, include slicing images, layers, printing time etc, at the same time you can pause, stop or enter setting page.

Tag ①: Slicing image currently printed;

Tag ②: File name currently printed;

Tag ③: Print time remaining, the time needed to finish printing, it is better to check after bottom layers finished.

Tag ④: Printed time, the time from you start printing.

Tag ⑤: The number of slicing layers, former are layers has printed, the latter is total layers volume.

Tag ⑥: Stop printing, click to stop the printing

Tag ⑦: pause/resume printing.

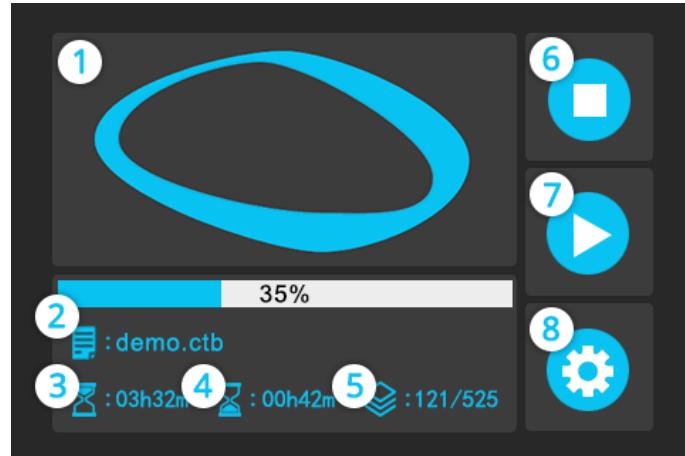


click the button will pause the current print



Click the button will resume print from the last layer.

Tag ⑧: Click to enter “printing setting” page.



#### Notification:

When click “stop”or“pause” button, if it is in exposure status, the printer will pause/stop after this layer finished, then Z axis will up to setting height.

### 3.4.10 Printing setting

Display the core parameter in this printing file, such as bottom layers; exposure time etc.

Bottom layers: the bottom layers during the printing process, click to enter “parameter input” page.

Bottom exposure time: the bottom layer exposure time during the printing, click to enter “parameter input” page.

Exposure time: the exposure time during the printing, click to enter “parameter input” page.

Light-off delay: The Light-off delay is the time during LED light off from the last layer to the next layer, this setting is for extra preparing time before the next layer start exposure, click to enter “parameter input” page.



### 3.4.11 Parameter input page

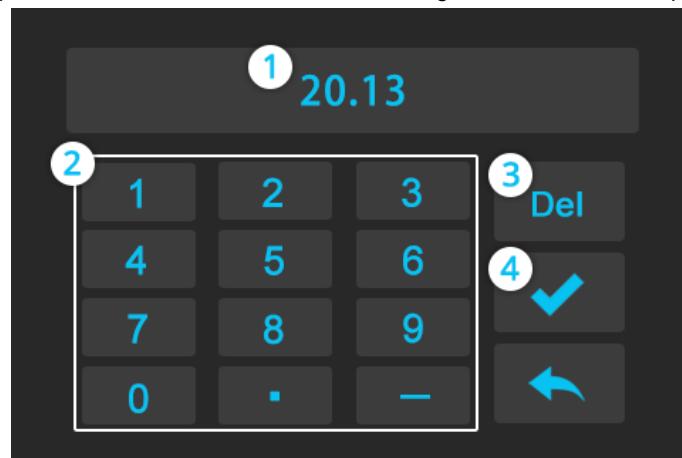
Adjust and save the current parameter setting.

Tag ①: Current parameter

Tag ②: Keyboard input area

Tag ③: Delete parameter, delete one value from right to left per click

Tag ④: Save parameter, click to save the current setting and back to the last page.



### 3.4.12 System page

Include all the function except core function. Such as system info, after sale etc.

Information page: Click to enter “information” page

Network: click to enter “Network” page

Service: click to enter “Service” page

Language: click to “language” page

Calibration: click to “calibration” page



### 3.4.13 Information page

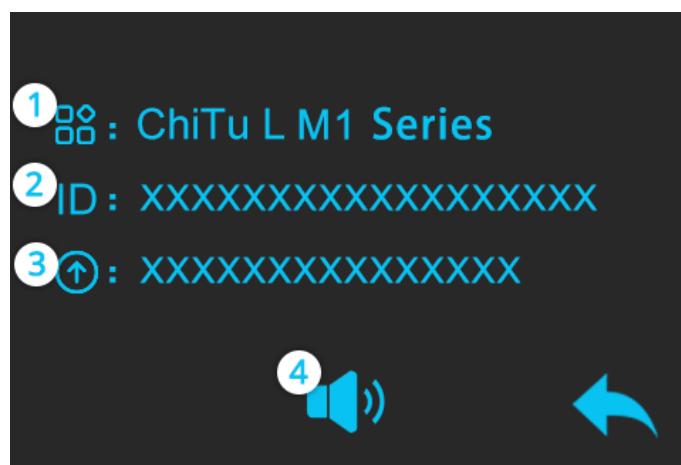
Display the key information of board.

Tag ①: The series and model number of this controller board.

Tag ②: The serial number of this board.

Tag ③: The firmware name and version of this board.

Tag ④: Beep on/off,  means beep on status,  means beep off status.



### 3.4.14 Service page

The official after sale and tech support information.

A large black rectangular redaction box covers the majority of the page content, starting just below the header and ending above the footer. Inside this redacted area, there is white text providing contact information.

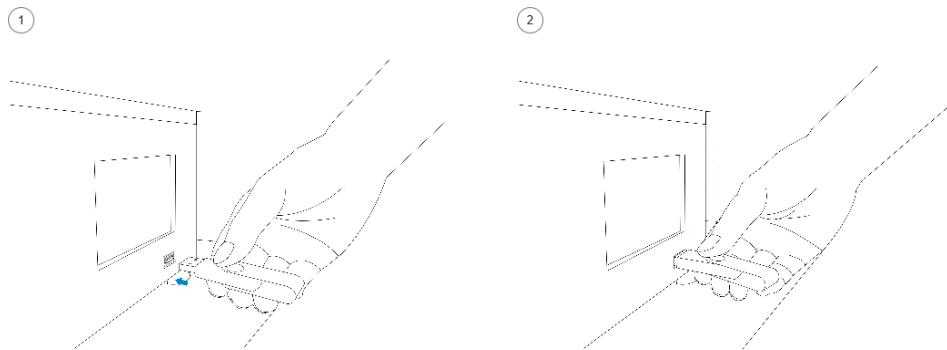
Website: [www.cbd-3d.com](http://www.cbd-3d.com)  
Business: [sales@cbd-3d.com](mailto:sales@cbd-3d.com)  
Telephone: +86-0755-23103569

## 3.5 Function guider

### 3.5.1 Read U disk

#### A) Insert U disk

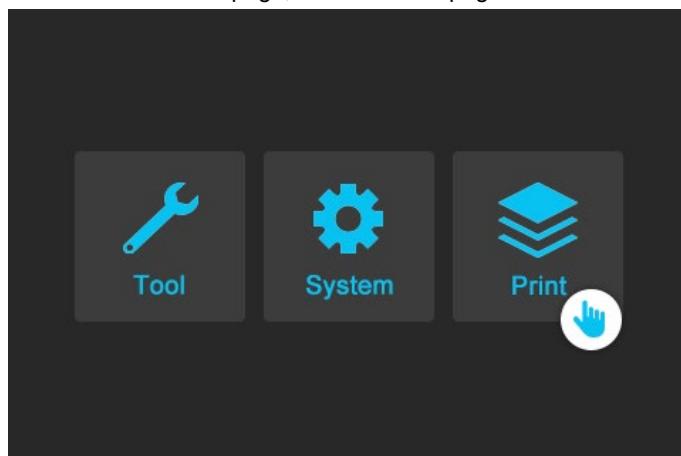
Insert the U disk include printing file into the printer.



To get the stable and better quality, please use the U disk from genuine manufacture.

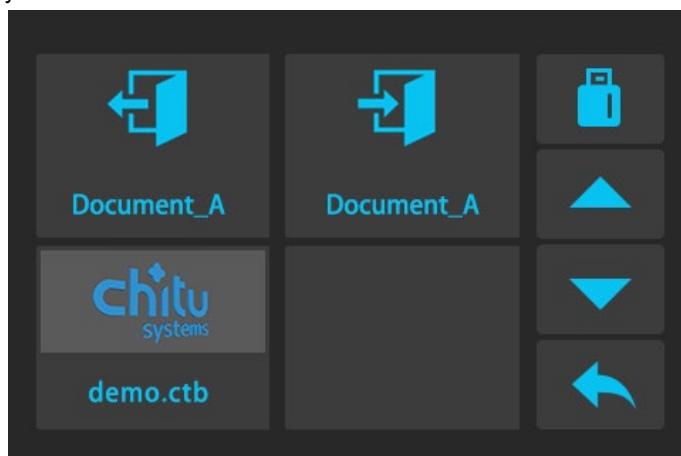
#### B) Click "Print"

Click the "Print" button on the main page, enter "file list" page.

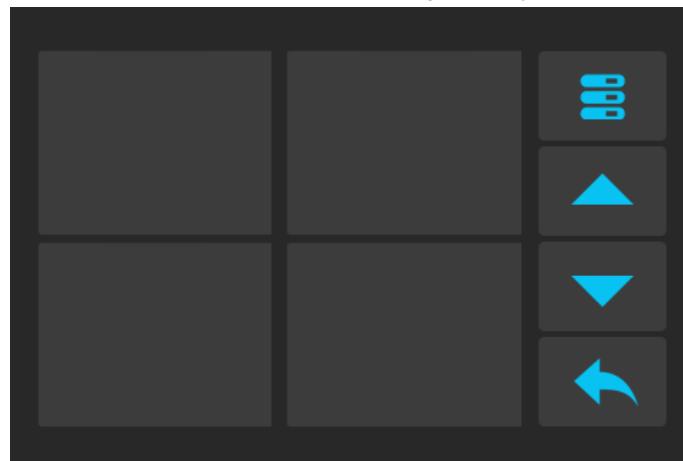


#### C) Check U disk file list

On this page, you can view the list of files and folders in the current U disk.



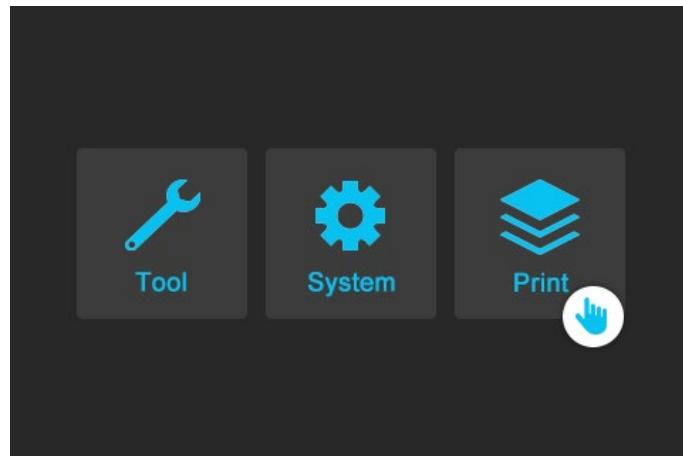
When you have not inserted a USB flash drive, this page displays a blank list.



### 3.5.2 Model preview

- A) Click "Print"

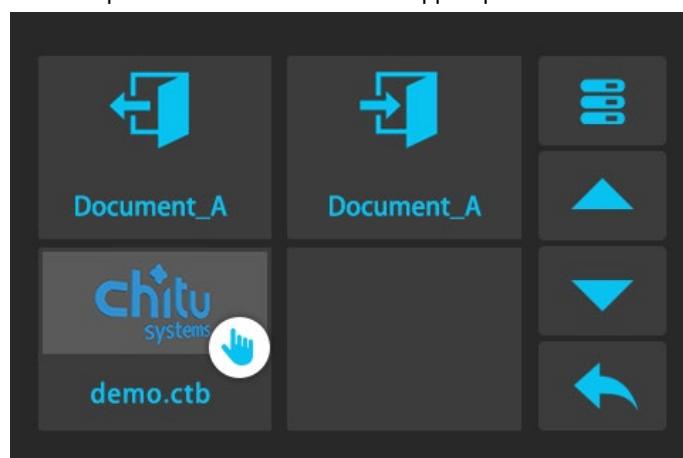
Click the "Print" button on the main page, enter "file list" page.



- B) Choose model file

Choose one of the models with the file format can be previewed, enter "file info" page.

Note: the file can't be previewed if the format not support preview.



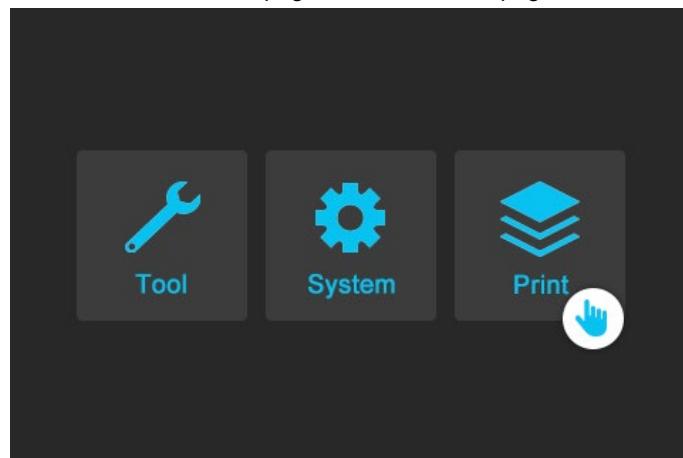
- C) Enter "File info" page



### 3.5.3 Delete file

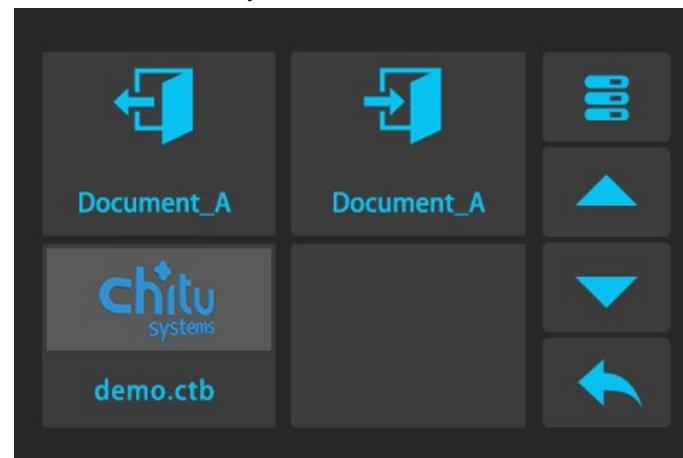
- A) Click “Print”

Click the “Print” button on the main page, enter “file list” page.



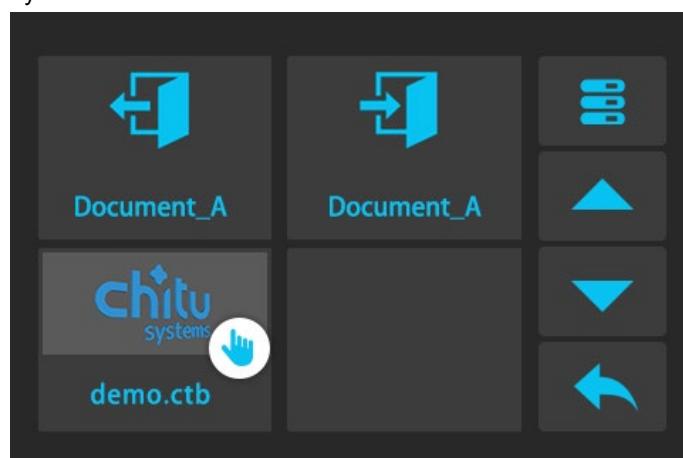
- B) Choose model file

In this page, you can choose the file you want to delete.



- C) Choose model file

Choose the file you want to delete.



- D) Click “delete” button

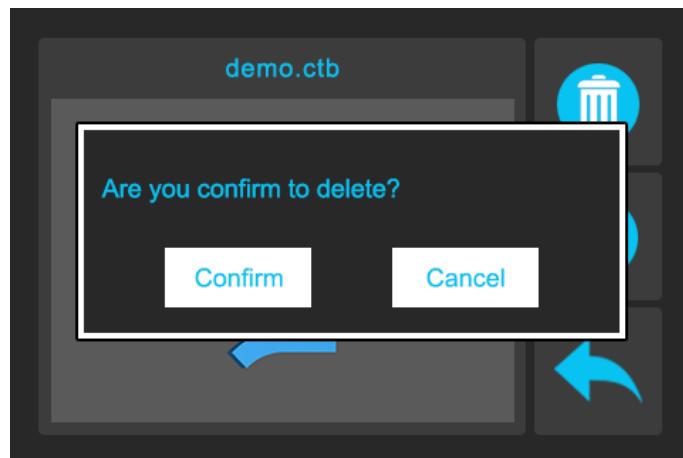
In this page, you can click the  in the right side, there will be a box to confirm if delete or not.



- E) Click “Confirm”

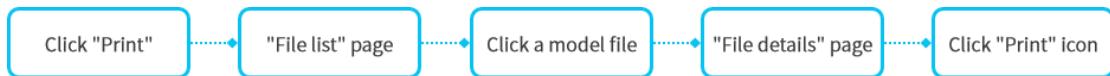
Click “Confirm”, the file will be deleted

Click “Cancel” .the box will be closed.



### 3.5.4 Local printing method

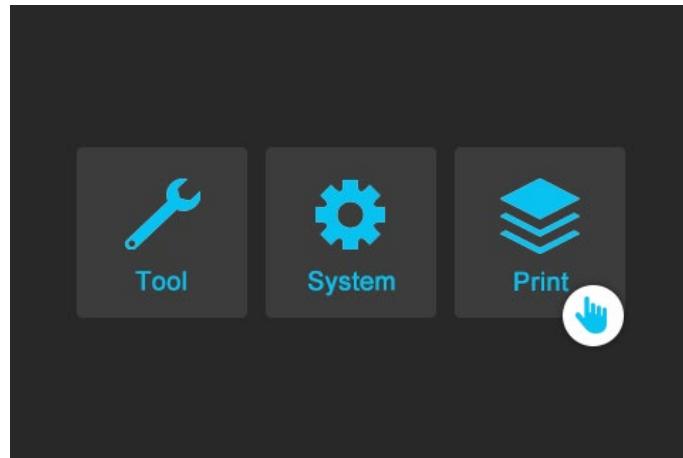
#### Flow of local printing:



#### Detailed steps for local printing:

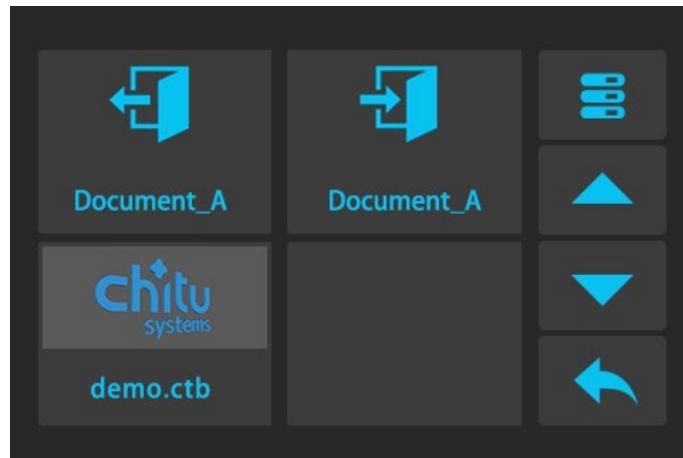
##### A) Click "Print"

Click the "Print" button on the main page, enter "file list" page.



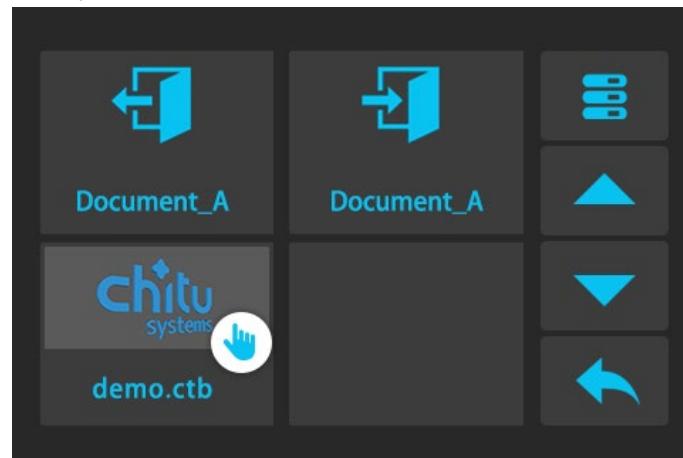
##### B) Enter "File list" page

In this page, you can choose the file you want to print.



C) Choose a model file

Choose a model file you want to print.



D) Enter "File info" page

In this page you can preview the 3D file.



Note: the file can't be previewed if the format not support preview.

E) Click "Print" button

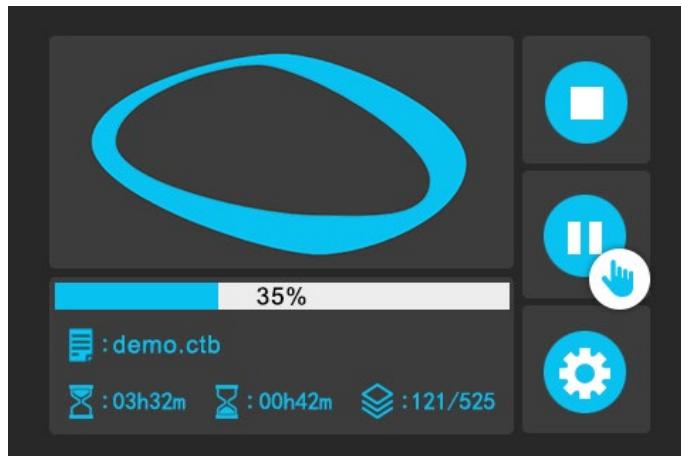
Click the  in the right side, then start printing.



### 3.5.5 Printing control (Pause/Resume/Stop)

#### A) Pause printing

In "Printing process" page, click the  button in the right side, printing will pause, and Z axis will move up to default setting height.



---

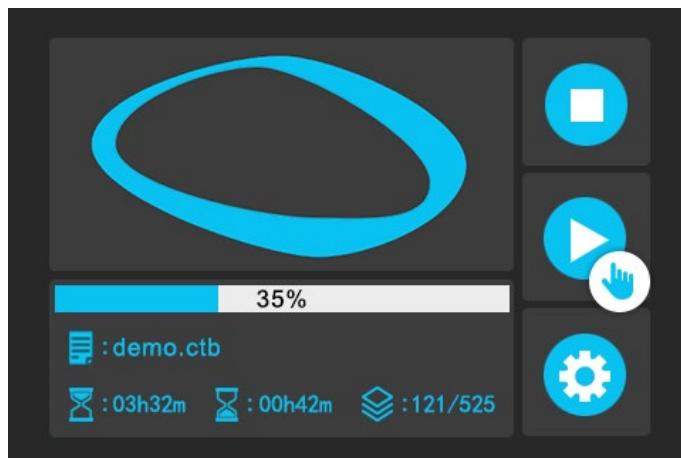
 Notification:

When click "stop" or "pause" button, if it is in exposure status, the printer will pause/stop after this layer finished, then Z axis will up to setting height.

---

#### B) Resume printing

In "Printing process" page, click the  button in the right side, printing will start again from the last layer to finish the print file.

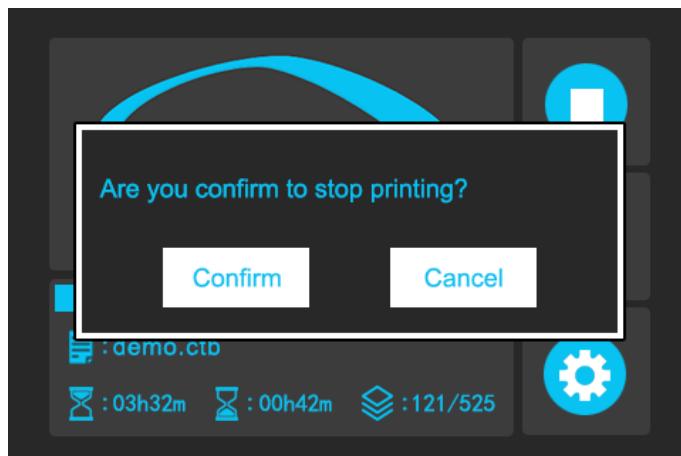
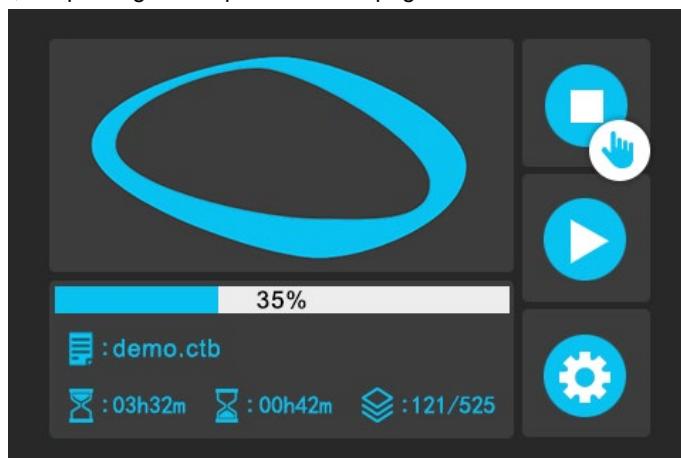


C) Stop printing

In "Printing process" page, click the  button in the right side, there will be a box to confirm if stop or not.

Click "Cancel", the printing will continue.

Click "Confirm", the printing will stop and exit the page.



---

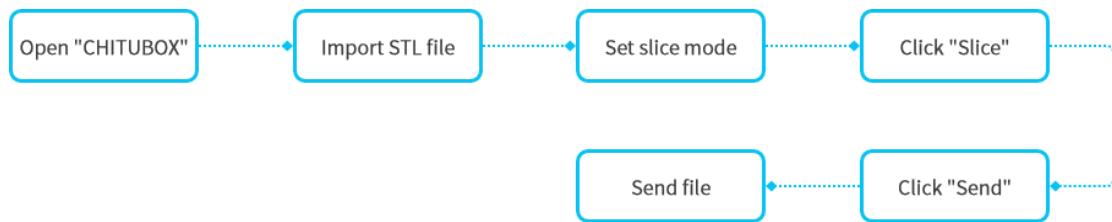
 Notification:

When click "stop"or"pause" button, if it is in exposure status, the printer will pause/stop after this layer finished, then Z axis will up to setting height.

---

### 3.5.6 Network printing

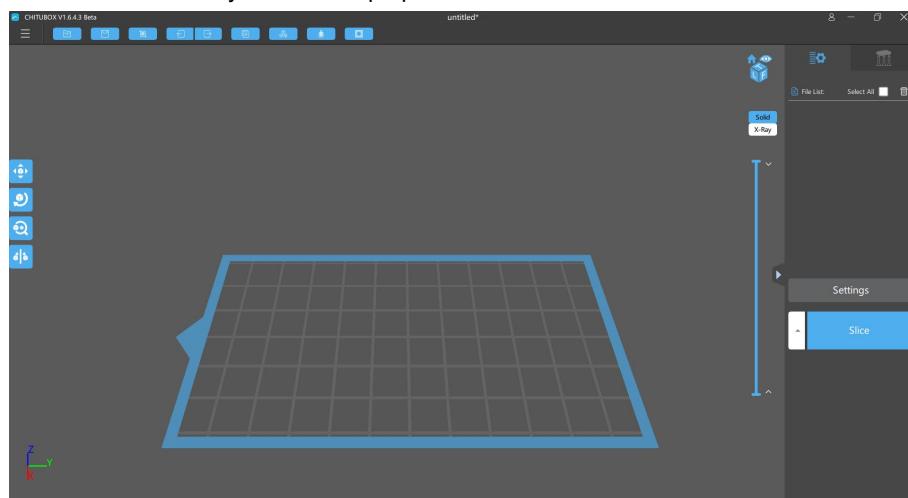
**Flow of network printing:**



**Detailed steps for network printing:**

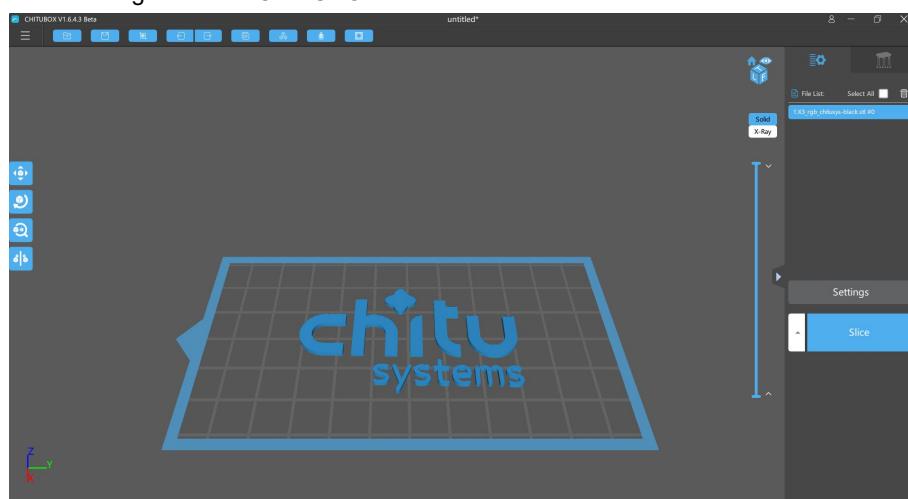
A) Open CHITUBOX software

Open the CHITUBOX in your PC or laptop.



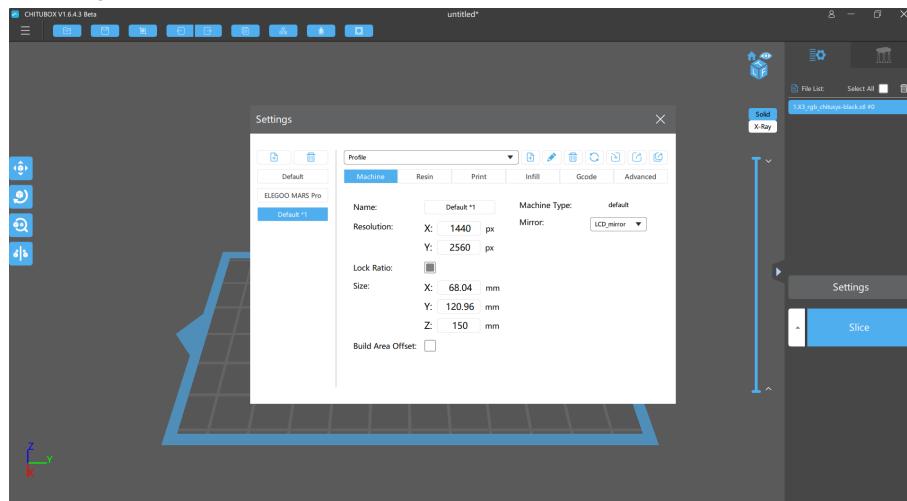
B) Import STL file

Open file or drag the file to CHITUBOX.



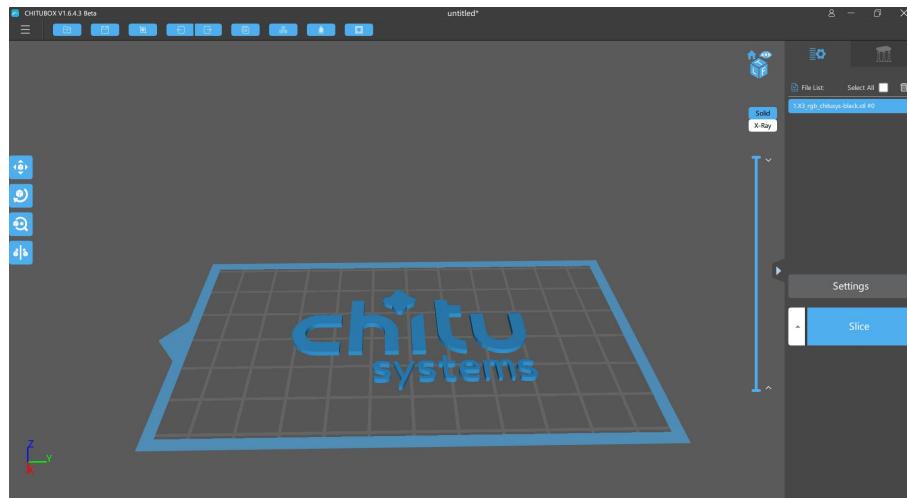
### C) Settings

Click “Settings”, make sure use the “default” mode.



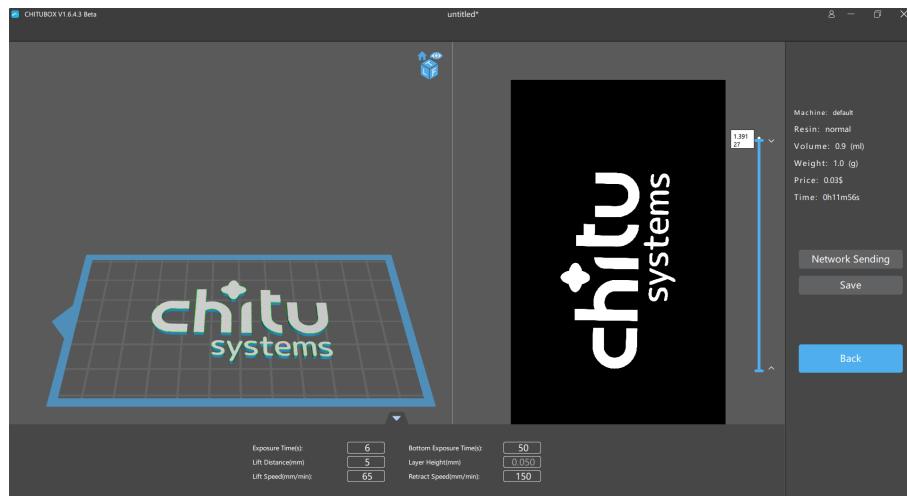
### D) Click “Slice”

After settings, click “Slice” and wait the slicing process to complete.



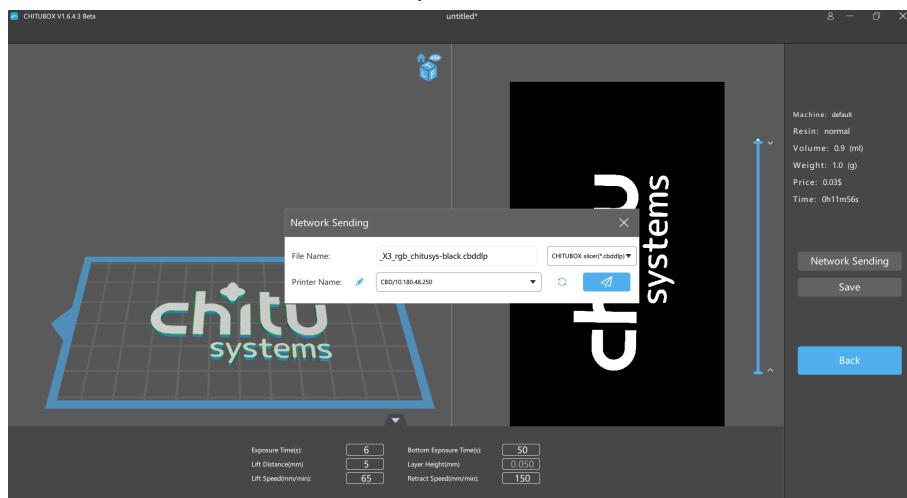
### E) Click “Network sending”

After slicing, click “Network sending” in the right side.



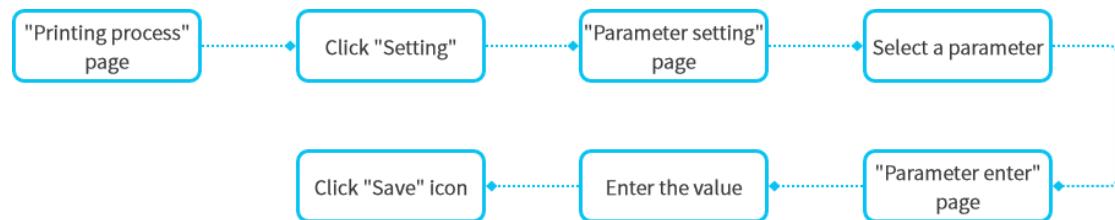
## F) Send file

In “Network sending” box, click “Printer name” list, select the printer or board that connected to the LAN, click , the file will send to the printer.



### 3.5.7 Printing setting

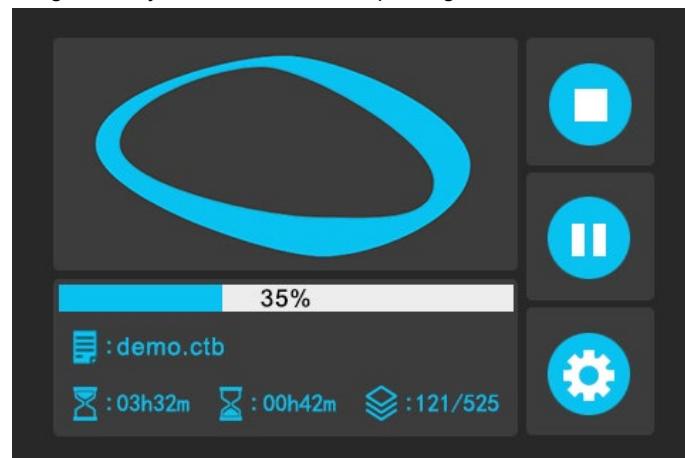
**Flow of printing setting:**



**Detailed steps for printing setting:**

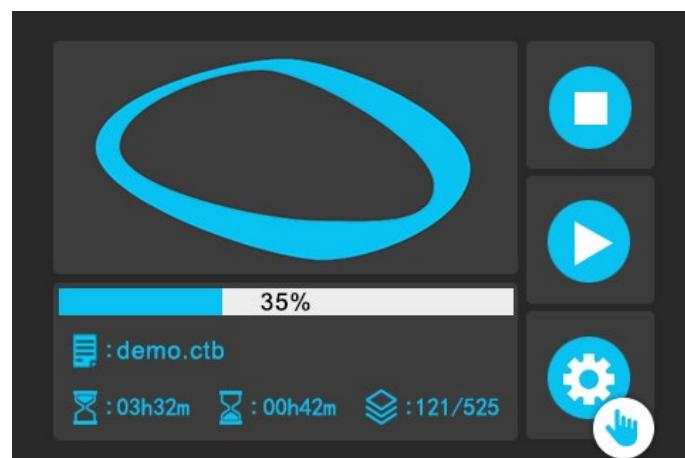
- A) “Printing process” page

The printing setting can only edit when the file is printing.



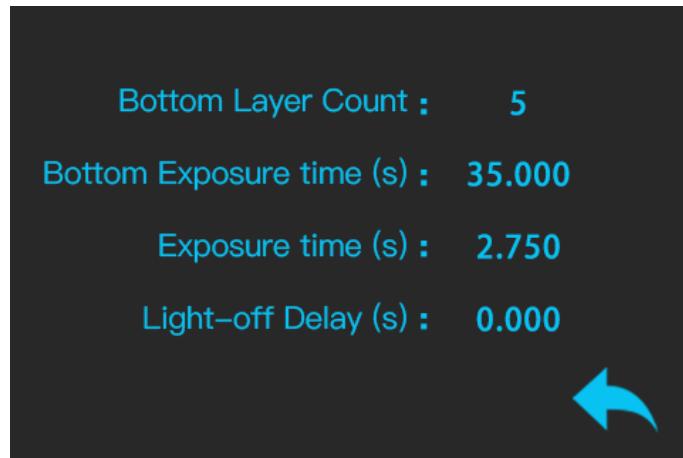
- B) Click “Printing setting” button

In “printing process” page, click the  button in the right side to enter “printing setting”.



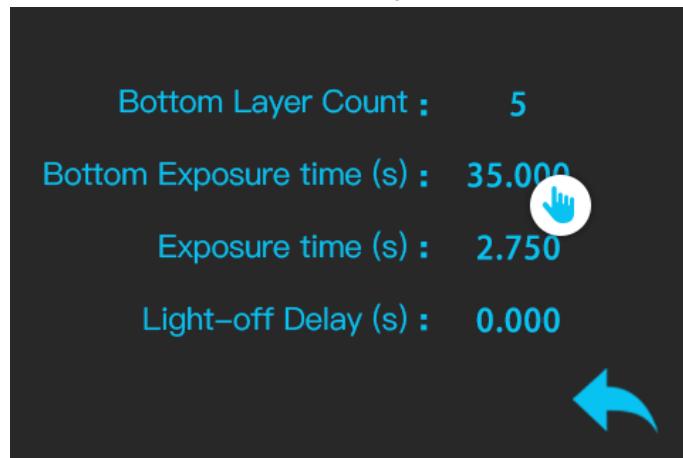
- C) Enter “Printing setting” page

For now, you can edit 4 parameters, bottom layer count, bottom exposure time, exposure time and light-off delay.

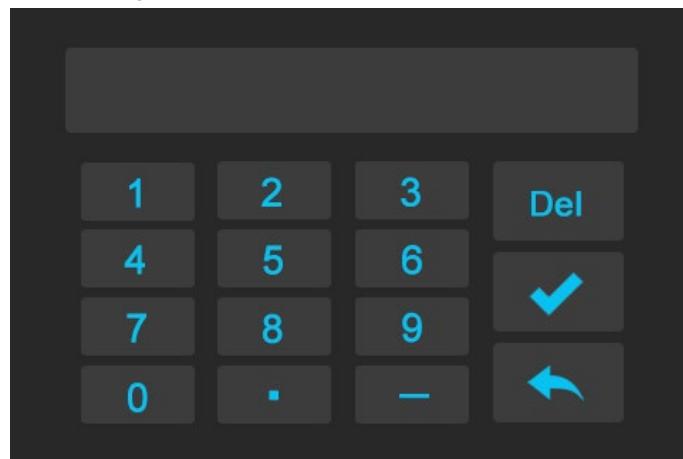


- D) Choose the parameter to set.

Click the parameter, enter the “Parameter input page”

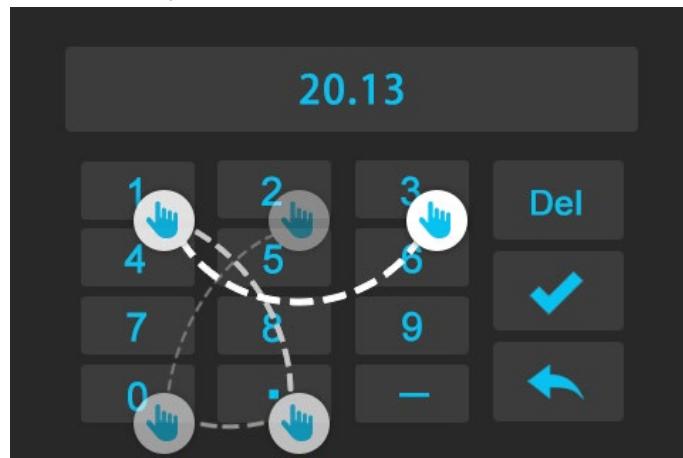


- E) Enter “Parameter input page”



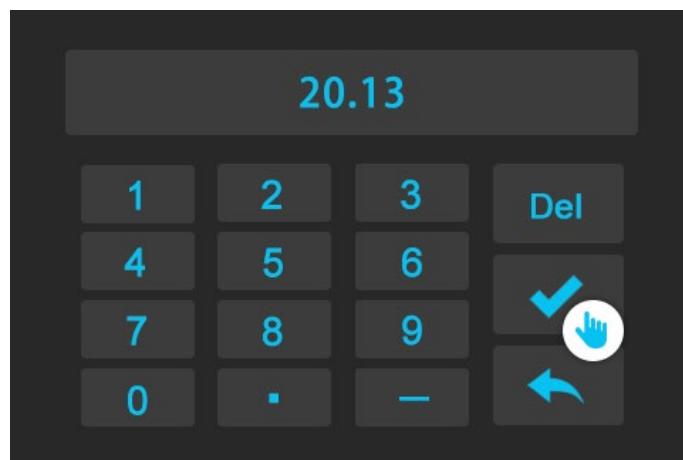
F) Keyboard input area

Input the number value on keyboard input area



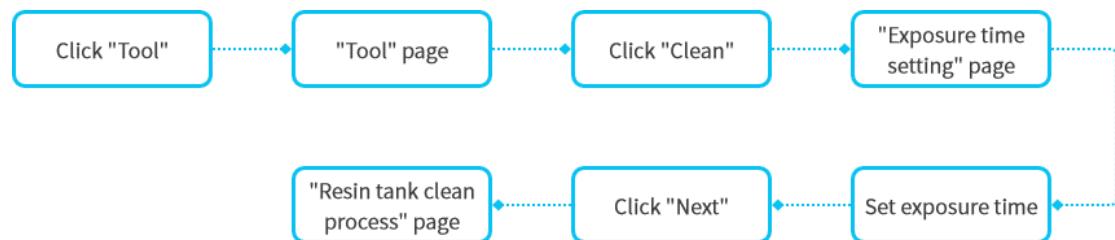
G) Click “Save” button

After input, click  button in the right side to save.



### 3.5.8 Resin tank clean

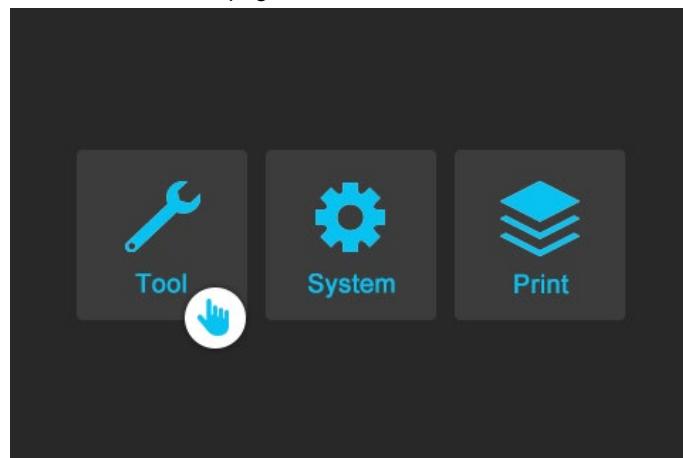
#### Flow of resin tank cleaning:



#### Detailed steps for resin tank cleaning:

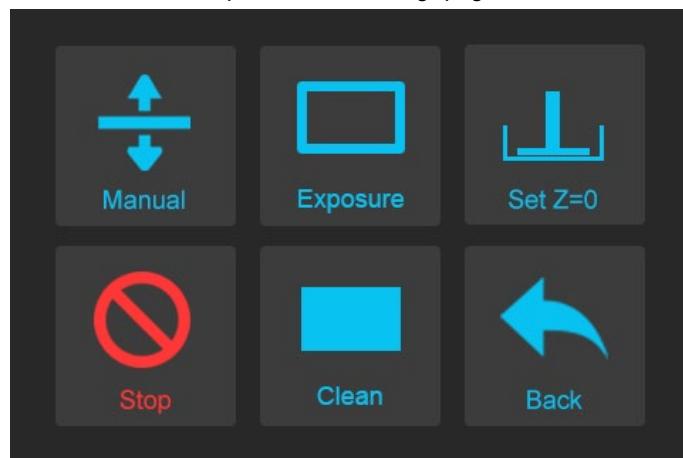
- A) Click "Tool" button

Click the "Tool" button on the main page



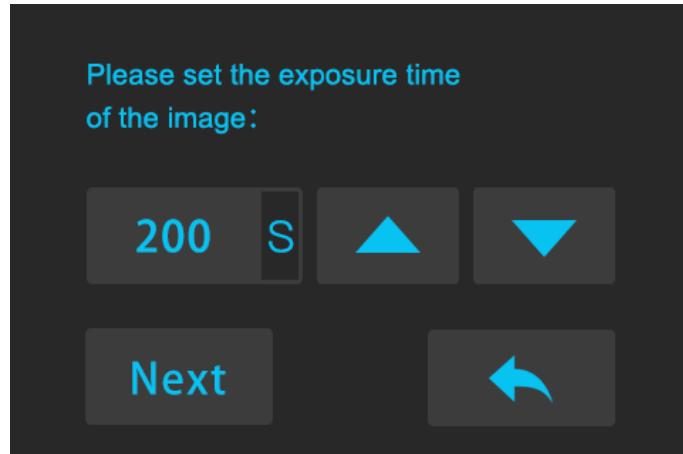
- B) Click "Clean" button

Click "Tool" button, enter "Clean exposure time setting" page.



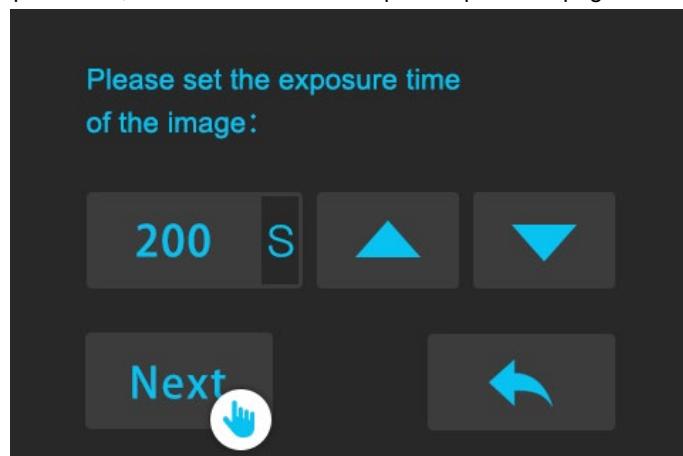
C) Set exposure time parameter

In this page, you can adjust the time by  or  button, or click “Parameter input” page to input by manual.



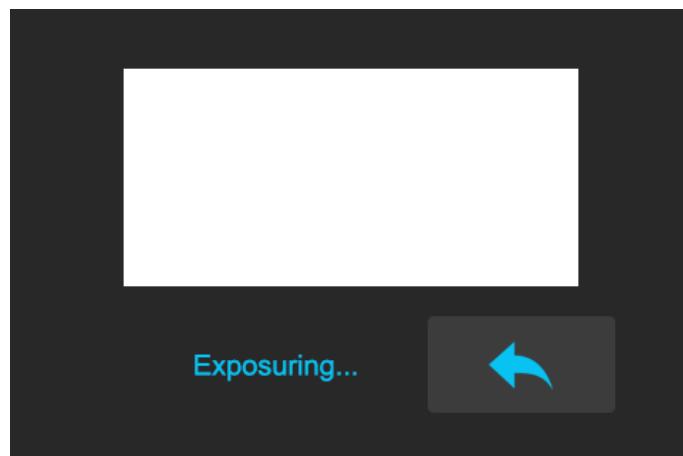
D) Click “Next”

After input the parameter, click “Next” to enter “Exposure process” page.



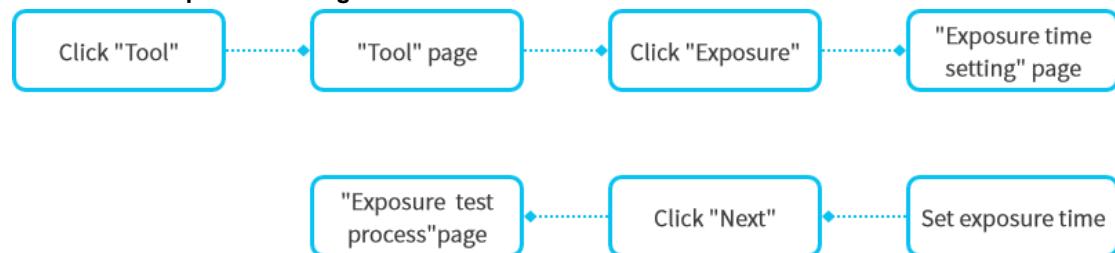
E) Enter “Clean process” page

Wait the process finish.



### 3.5.9 Exposure test

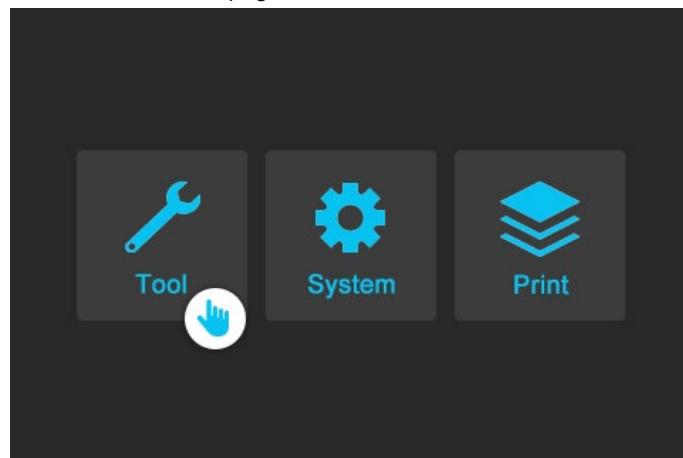
Flow of exposure testing:



Detailed steps for exposure testing:

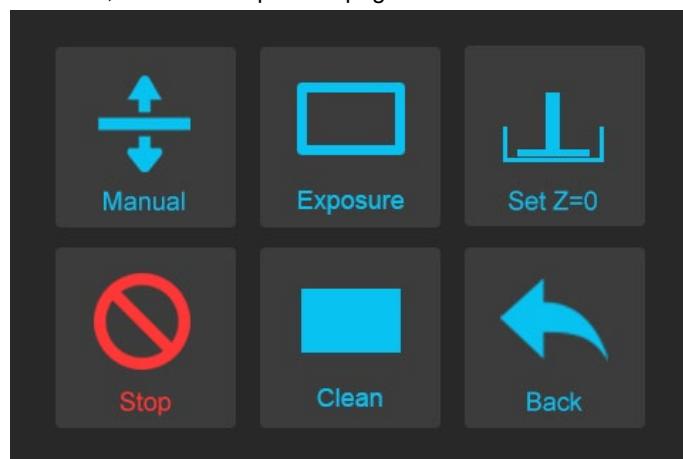
- A) Click "Tool" button

Click the "Tool" button on the main page.



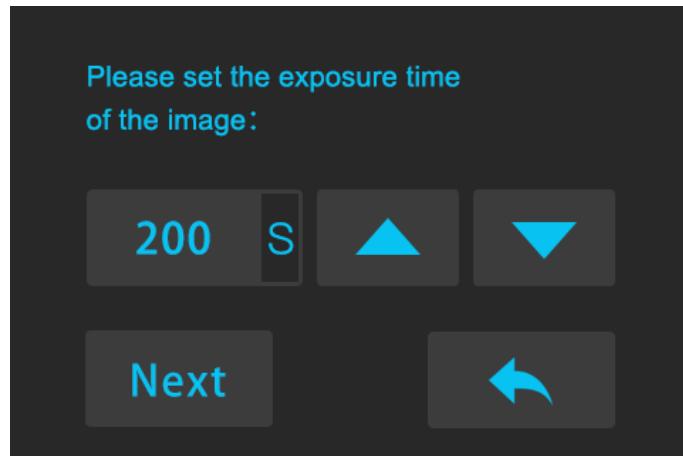
- B) Click "Exposure"

Click "Exposure" button, enter the "Exposure" page.



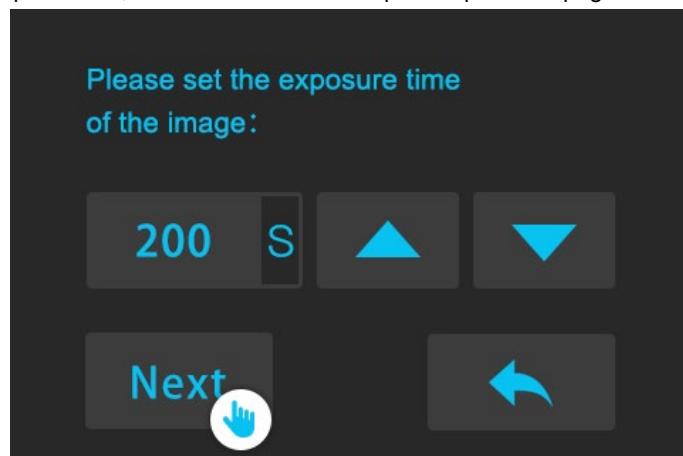
C) Set exposure time parameter

In this page, you can adjust the time by  or  button, or click “Parameter input” page to input by manual.



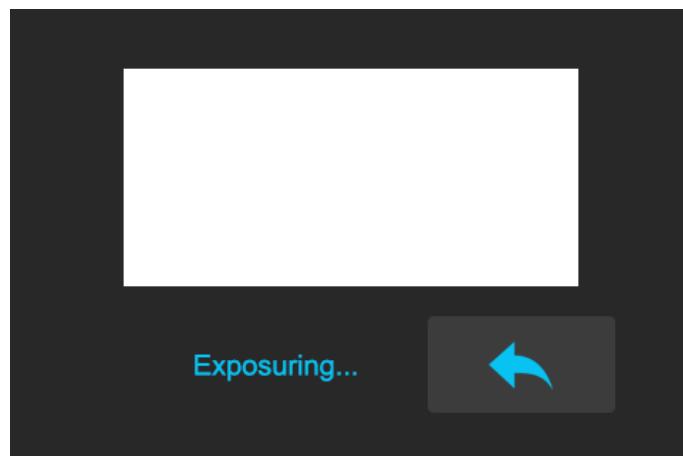
D) Click “Next”

After input the parameter, click “Next” to enter “Exposure process” page.



E) Enter “Clean process” page

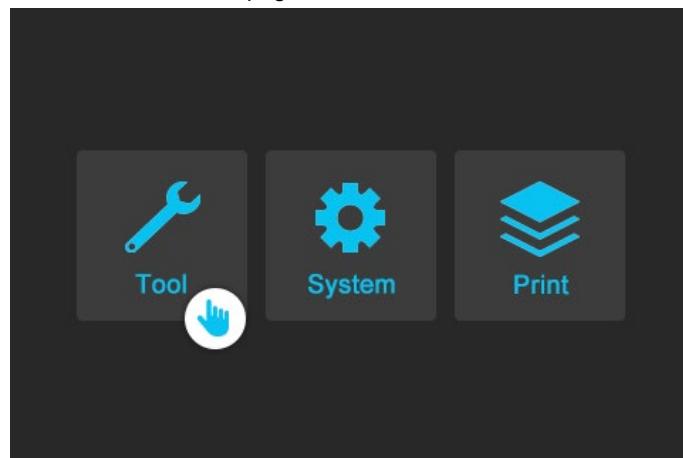
Wait the process finish.



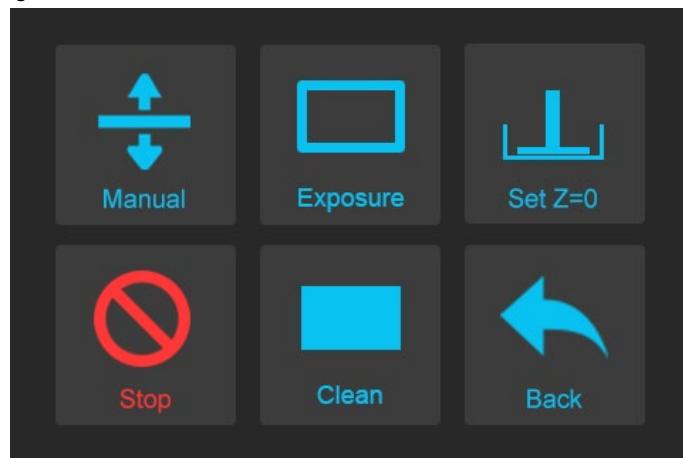
### 3.5.10 Z platform reset

- A) Click “Tool” button

Click the “Tool” button on the main page.

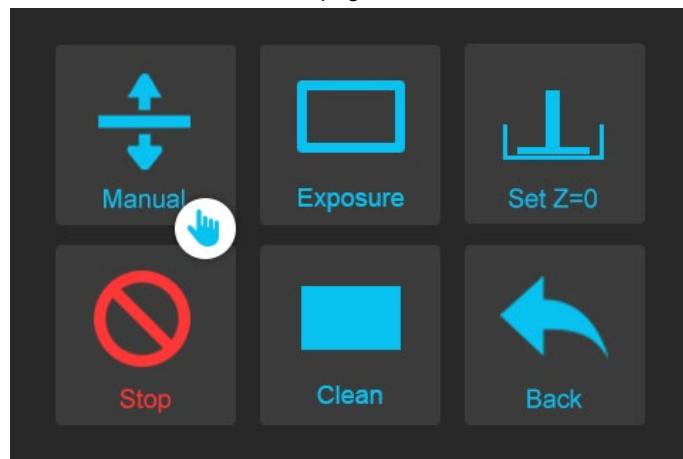


- B) Enter “Tool” page



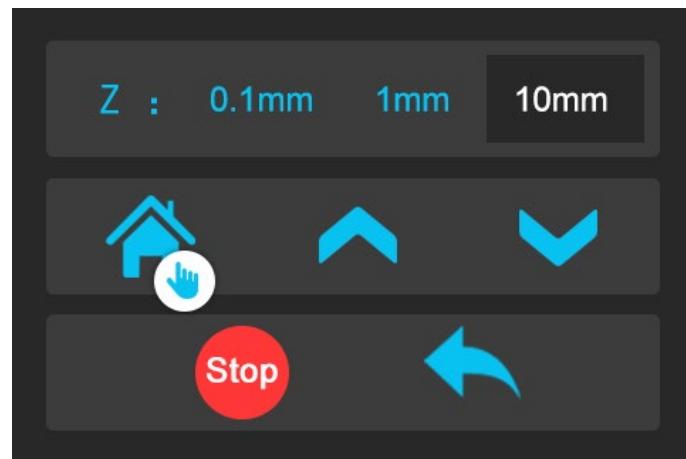
- C) Click “Manual” button

Click “Manual” button to enter the “Manual” page.



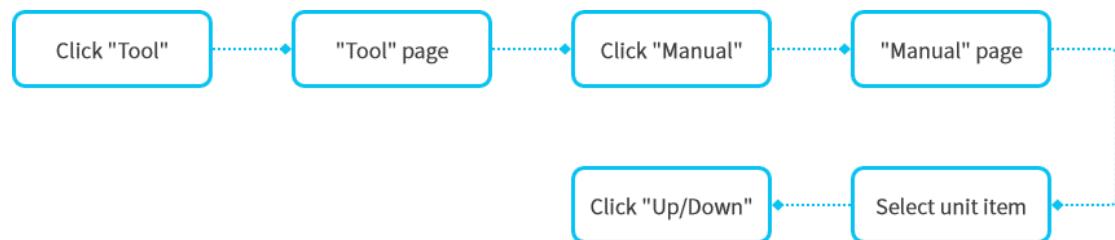
- D) Click “Home” button

Click  button, the Z platform will automatically move to the default height.



### 3.5.11 Control the Z platform

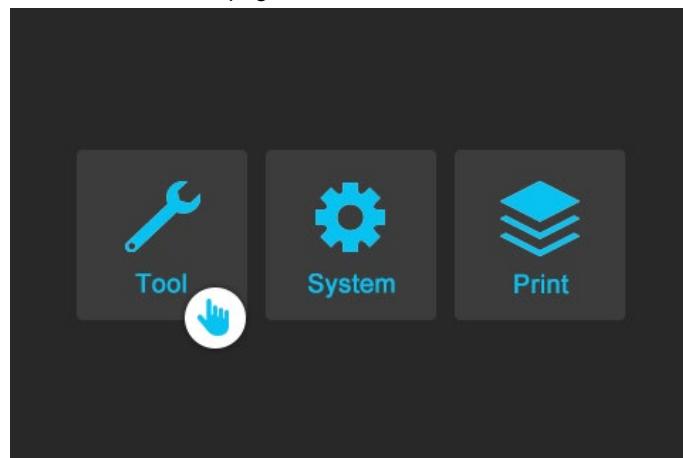
Flow of controlling the Z platform:



Detailed steps for controlling the Z platform:

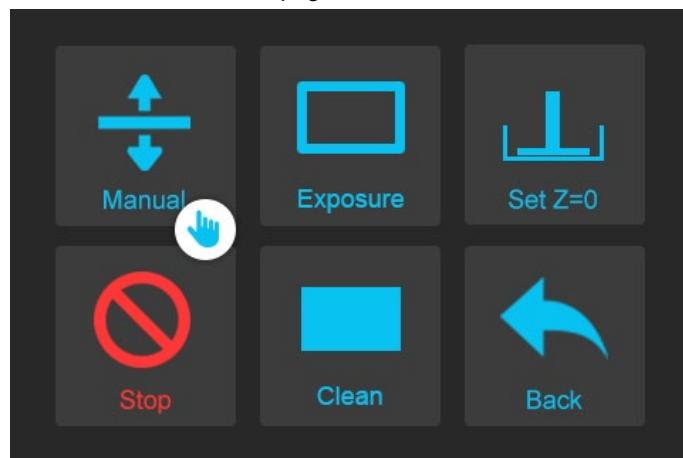
- A) Click “Tool” button

Click the “Tool” button on the main page

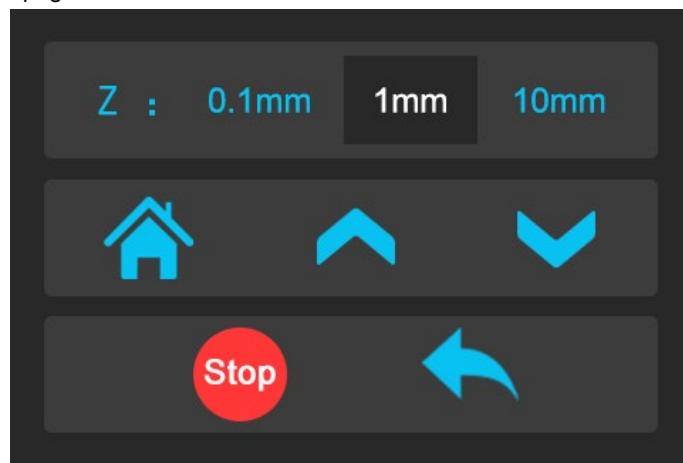


- B) Click “Manual” button

Click “Manual” button to enter “Manual” page.

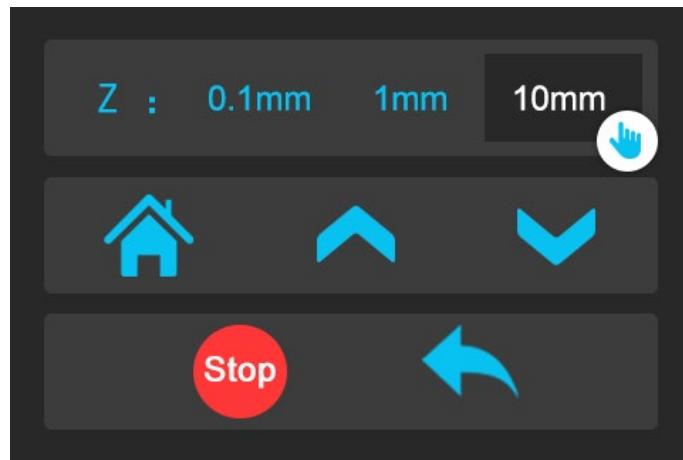


C) Enter "Manual" page



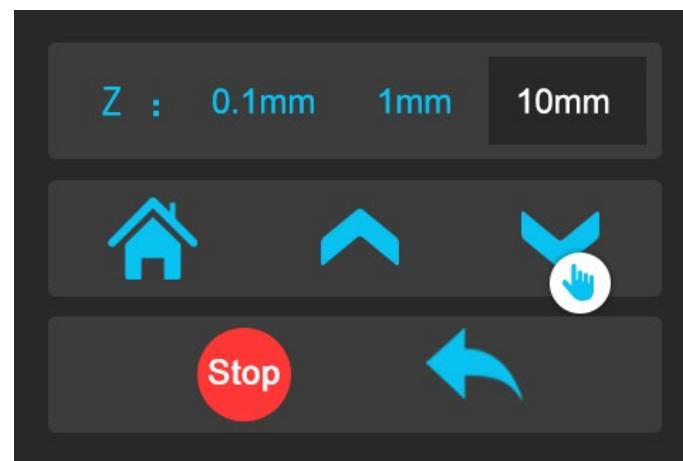
D) Set stepper value

Set the stepper value for up or down.



E) Click "Up" or "Down" button

Click  or  button, Z axis will move Up/down the current value unit you choose



### 3.5.12 Language Switch

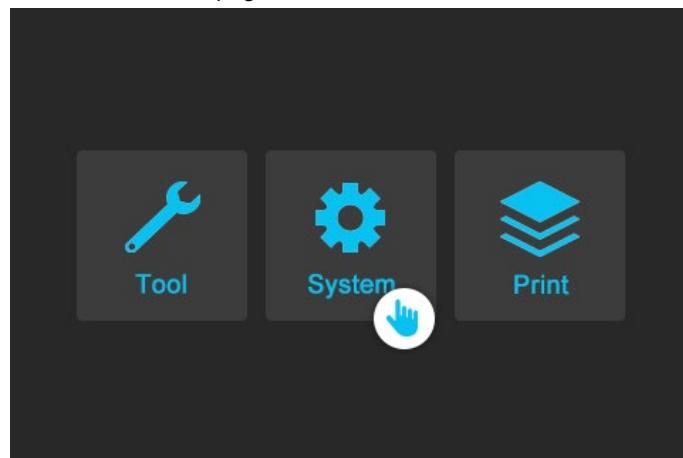
#### Flow of language switching:



#### Detailed steps for language switching:

- A) Click “System” button

Click “System” button in the main page.

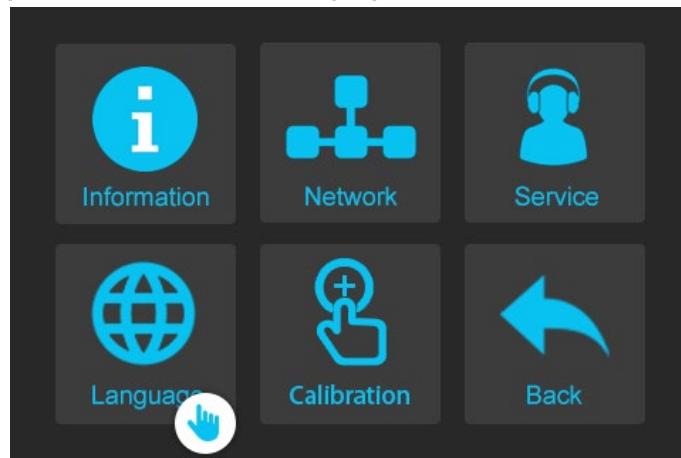


- B) Enter “System” page



C) Click “Language” button

Click “Language” button, there will be a “Language switched” box.

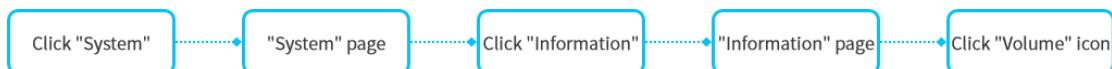


D) Click “Confirm” button



### 3.5.13 Beep on/off

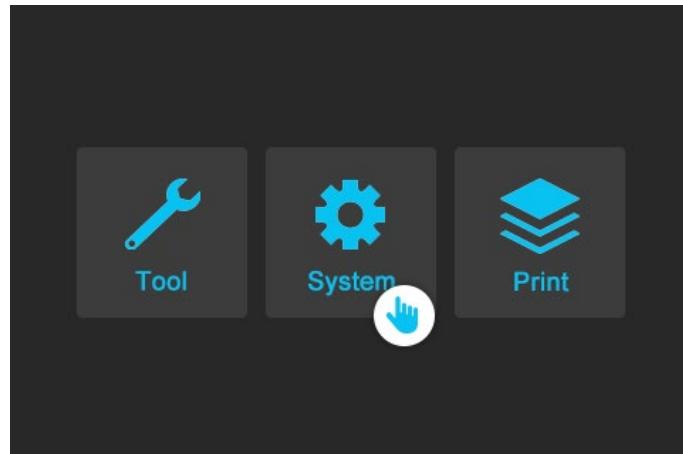
Flow of turning on/off the beep:



Detailed steps for turning on/off the beep:

- A) Click "System" button

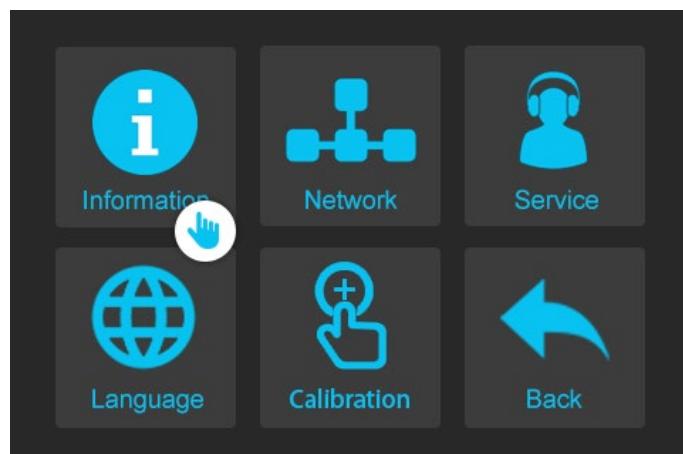
Click "System" button on the main page.



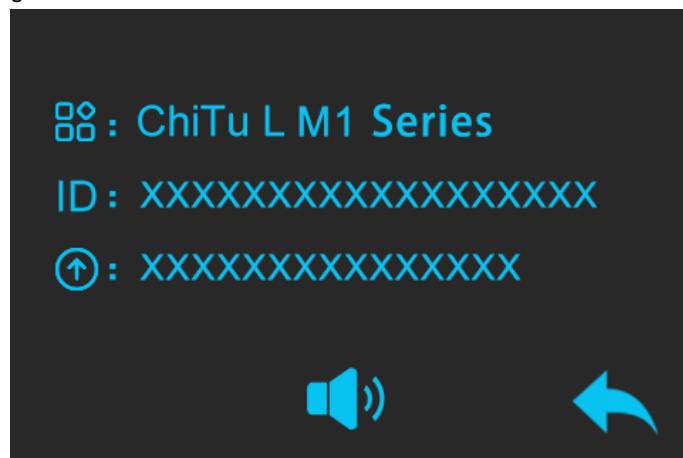
- B) Enter "System" page



- C) Click "Info" button



- D) Enter "Info" page



- E) Click "Beep" button

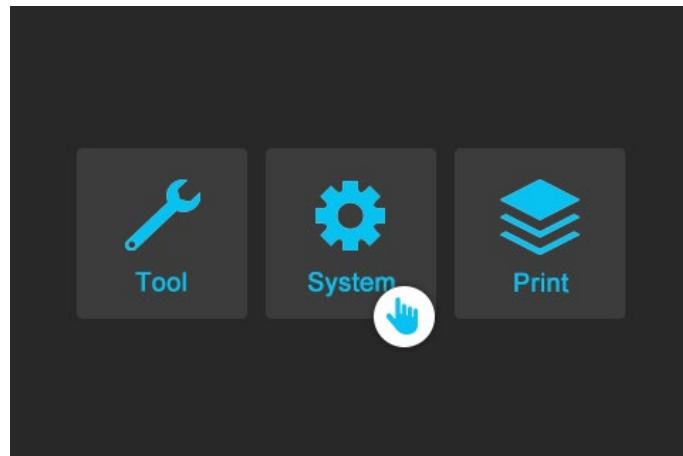
 means beep on status, click to switch to , The system will enter the sound off mode.

 means beep off status, click to switch to , The system will enter the sound on mode.

### 3.5.14 Information

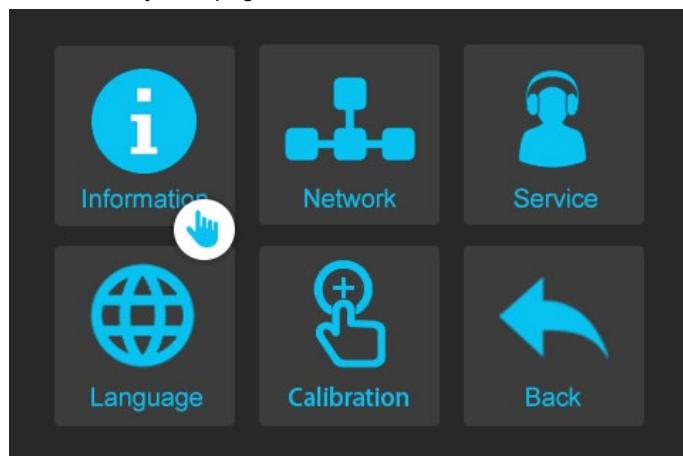
- A) Click “System” button

Click “System” button on the main page.



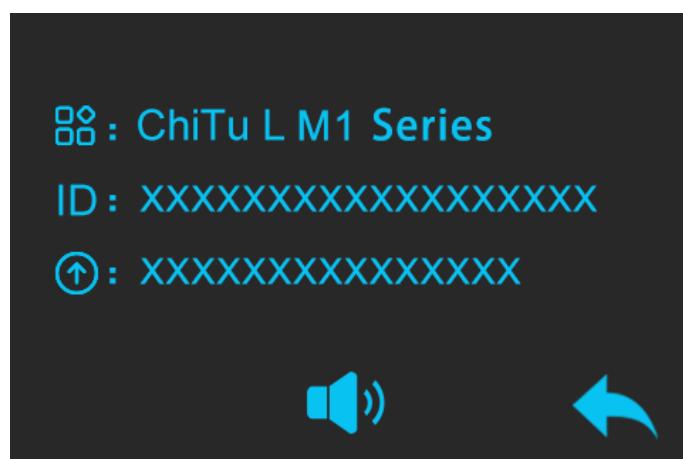
- B) Click “Info” button

Click “Info” button on the System page.



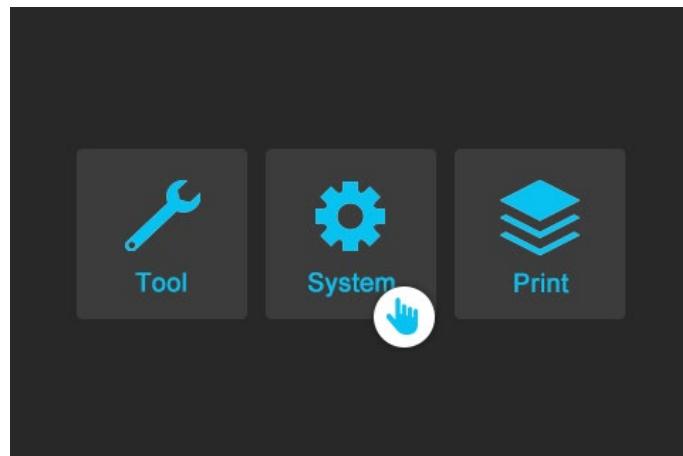
- C) Enter “Info” page

This page you can see the key information of board. The series and model number of this controller board.



### 3.5.15 Service

- A) Click “System” button



- B) Click “Service” button

Enter “System” page, click “Service” button



- C) Enter “Service” page

The official after sale and tech support information.



# Others

## 4.1 Contact Us & After sale

After-sales consultation:

Market Information		Technical Support
Address : Room 409, Block A, Huafeng Smart Innovation Port, Gushu 2nd Road, Xixiang Street, Baoan District, Shenzhen		
Tel : (+86) 0755-23103569		Official website : <a href="http://www.cbd-3d.com">www.cbd-3d.com</a>
E-mail : <a href="mailto:sales@cbd-3d.com">sales@cbd-3d.com</a>		E-mail : <a href="mailto:support@cbd-3d.com">support@cbd-3d.com</a>

Contact us:

Official Facebook				
Channel	CBD-Tech	Link address	<a href="https://www.facebook.com/CBD3D">https://www.facebook.com/CBD3D</a>	QR code
				

Official Facebook Group				
Channel	ChiTu Systems	Link address	<a href="https://www.facebook.com/groups/524123865039248">https://www.facebook.com/groups/524123865039248</a>	QR code
				

Official Twitter				
Channel	ChiTu Systems	Link address	<a href="https://twitter.com/chitusystems">https://twitter.com/chitusystems</a>	QR code
				

Official Instagram				
Channel	chitu_board	Link address	<a href="https://www.instagram.com/chitu_board/">https://www.instagram.com/chitu_board/</a>	QR code
				

Official Youtube				
Channel	ChiTu Controller Board	Link address	<a href="https://www.youtube.com/channel/UCR_Y4rVn7A_6WSHtR_zwTq">https://www.youtube.com/channel/UCR_Y4rVn7A_6WSHtR_zwTq</a>	QR code
				