CBD创必得

3D Printer Control System

CHITU

专业3D打印机控制系统提供商

Professional 3D Printer Control System Provider

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ChiTu L 5.5-10.1 User Manual

Version 3.21

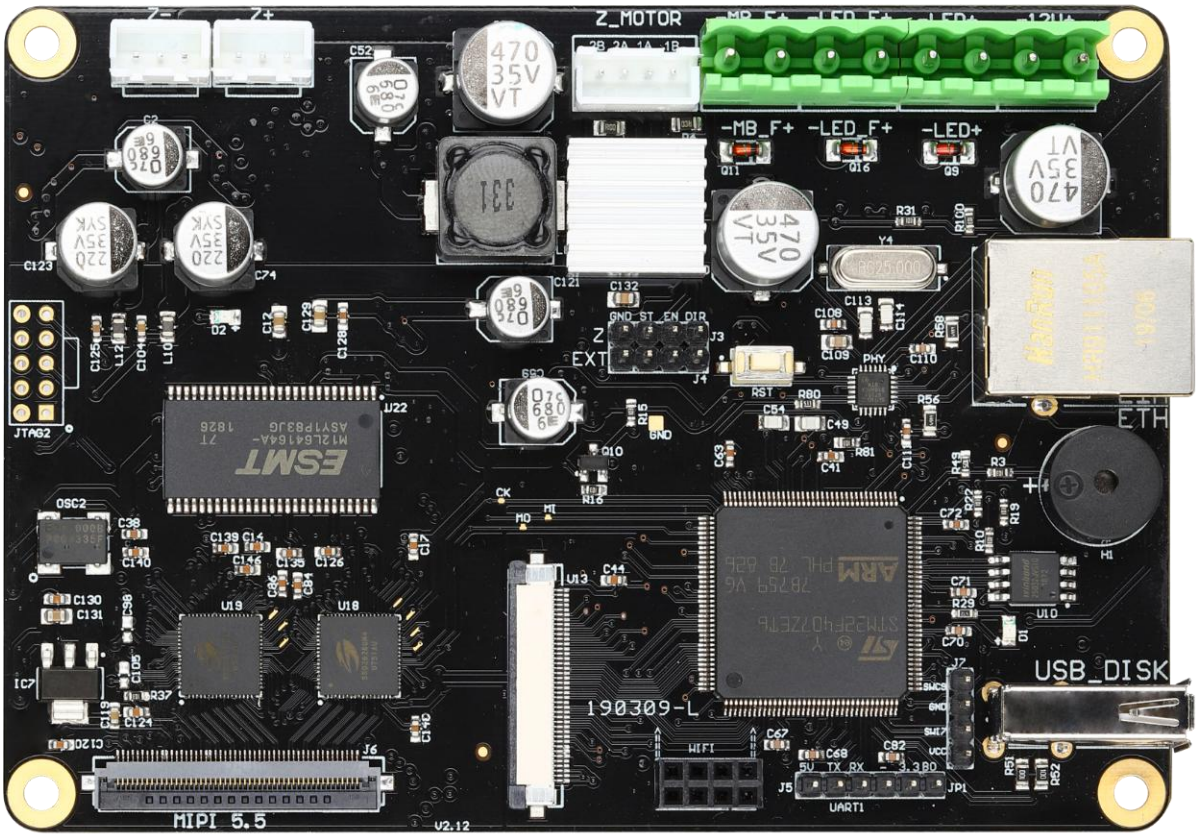
Release Date: 2019-11-29

Author: Shenzhen CBD Technology Co., Ltd.

Change History

Date	Revison	History	Reason	Author
2019/11/29	3.21	First Release		Yongfei.Sun

1. Introduction



ChiTu L 5.5-10.1 is a master control solution for LCD/DLP 3D printers.

It has completely independent intellectual property rights and is equipped with ARM+FPGA chips. with powerful intelligent support.

STM32F407 + FPGA support for more projectors and experience is better than existing printers on the market.

Usage：LCD/SLA/DLP 3D printer

1.1 Glossary

MOSFET - The metal－oxide－semiconductor field-effect transistor (MOSFET, MOS-FET, or MOS FET), also known as the metal－oxide－silicon transistor (MOS transistor, or MOS), is a type of insulated-gate field-effect transistor (IGFET) that is fabricated by the controlled oxidation of a semiconductor, typically silicon. The voltage of the covered gate determines the electrical conductivity of the device; this ability to change conductivity with the amount of applied voltage can be used for amplifying or switching electronic signals.

Jumper - In electronics and particularly computing, a jumper is a short length of conductor used to close, open or bypass part of an electronic circuit. They are typically used to set up or configure printed circuit boards, such as the motherboards of computers. The process of setting a jumper is often called strapping

Pin - It is the wiring from the internal circuit of the integrated circuit (chip) to the peripheral circuit, and all the pins form the interface of this chip. A section of the end of the lead is soldered to form a joint with the pad on the printed board. Pins can be divided into heel, toe, and foot sides.

Resin Tank/Vat - The utensil to set resin.

FEP Film - Fluorinated ethylene propylene is very similar in composition to fluoropolymers PTFE (polytetrafluoroethylene) and PFA (perfluoroalkoxy polymer resin). FEP and PFA both share PTFE's useful properties of low friction and non-reactivity, but are more easily formable. FEP is softer than PTFE and melts at 260 °C; it is highly transparent and resistant to sunlight.

UV LED - The light source to make resin solidify.

1.2 Disclaimer

Failure to read the user manual may lead to personal injury, inferior results, or damage to the 3D printer. Always ensure that anyone who operates the 3D printer knows and understands the contents of the Manual. We cannot control the conditions in which you assemble the ChiTu series board. For this, and other reasons, we do not assume responsibility, and expressly disclaim liability for loss, injuries, damage, or expense arising out of, or in any way connected with, the assembly, handling, storage, use or disposal of the product. The information in this handbook is provided without any warranty, expressed or implied,regarding its correctness.

1.3 Safety instructions

1. This device is for indoor use only. Do not expose the printer to rain or snow. Keep forever
The minimum distance between the printer and other objects in a dry environment is 30 cm.

2. The main board power is 12 / 24V. Never connect the printer to other power sources; it may cause malfunction or damage the main board.

3. Place the motherboard wiring properly to avoid interference. Or expose it to any potential damage. Also, make sure that the power cord is not mechanical or otherwise.

4. Do not disassemble the motherboard parts without permission. All repairs must be performed by qualified technicians.

5. During the printing process, the motherboard components are damaged. If there is any smoke or odor, please stop printing immediately.

1.4 License

The ChiTu series is a 3D printer control motherboard independently developed by the CBD-Tech company. It does not use open source firmware, but we still put the user experience first and have achieved a high degree of customization. For details, please refer to the relevant open parameters and software.

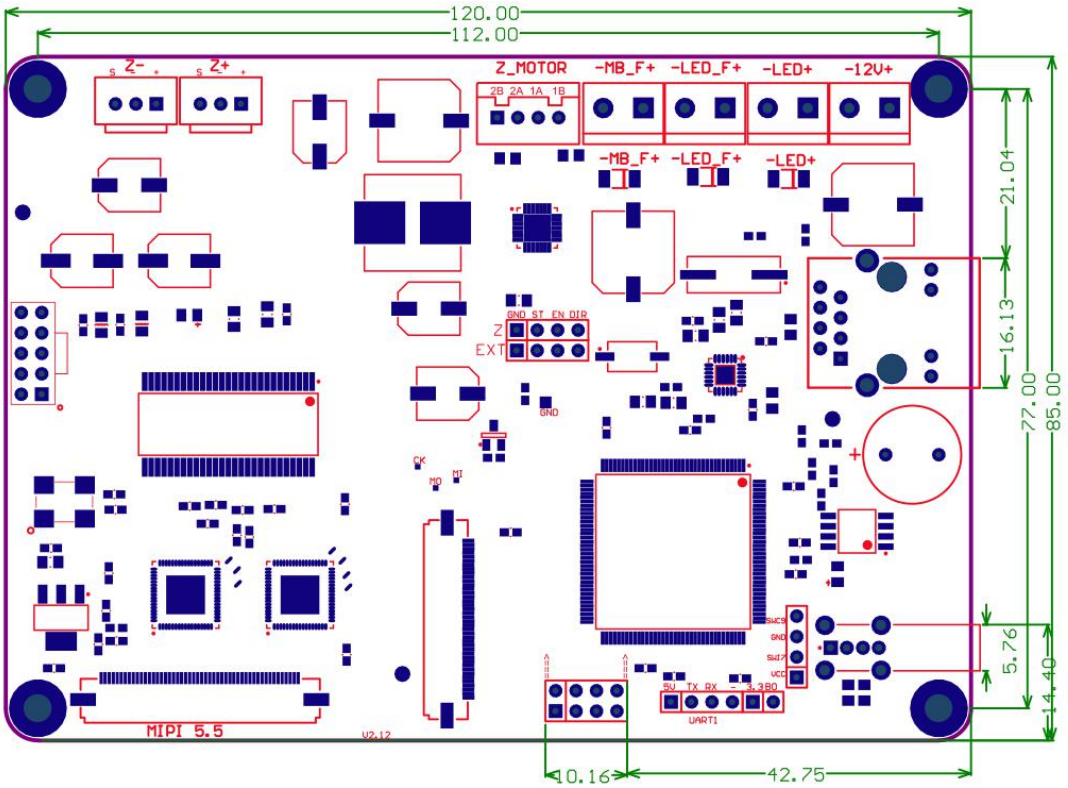
www.cbd-3d.com/support/download

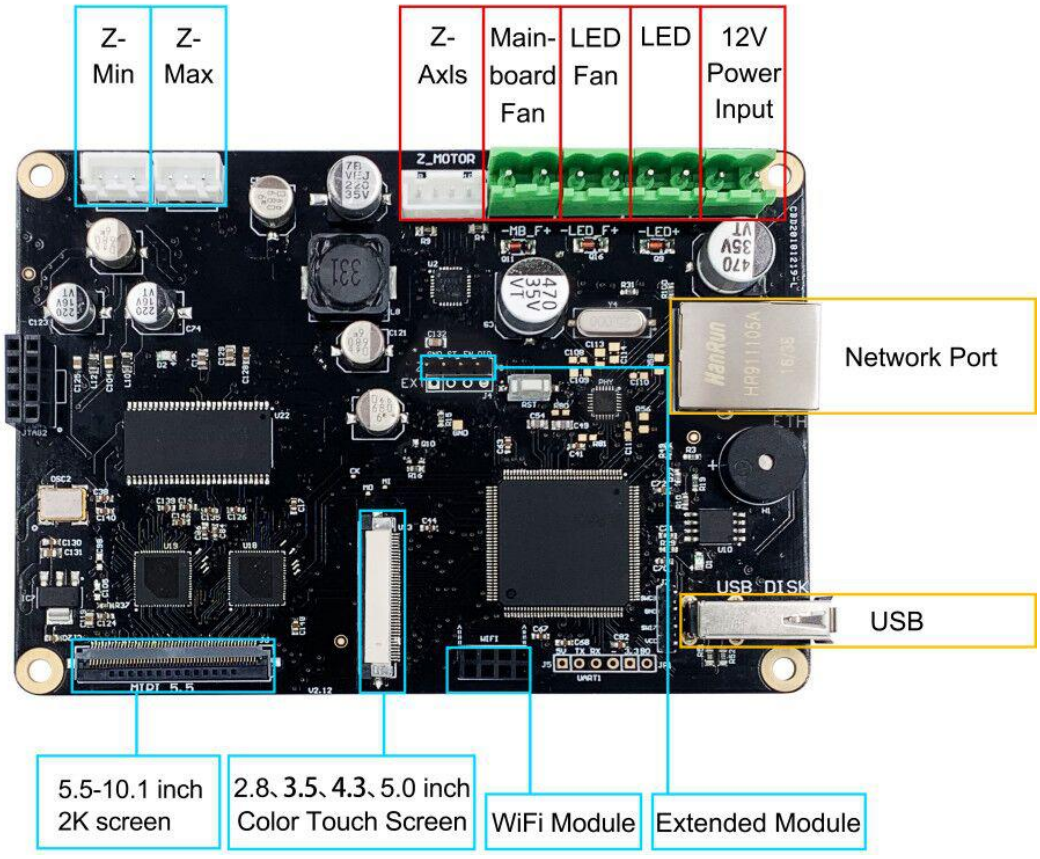
2. Summary

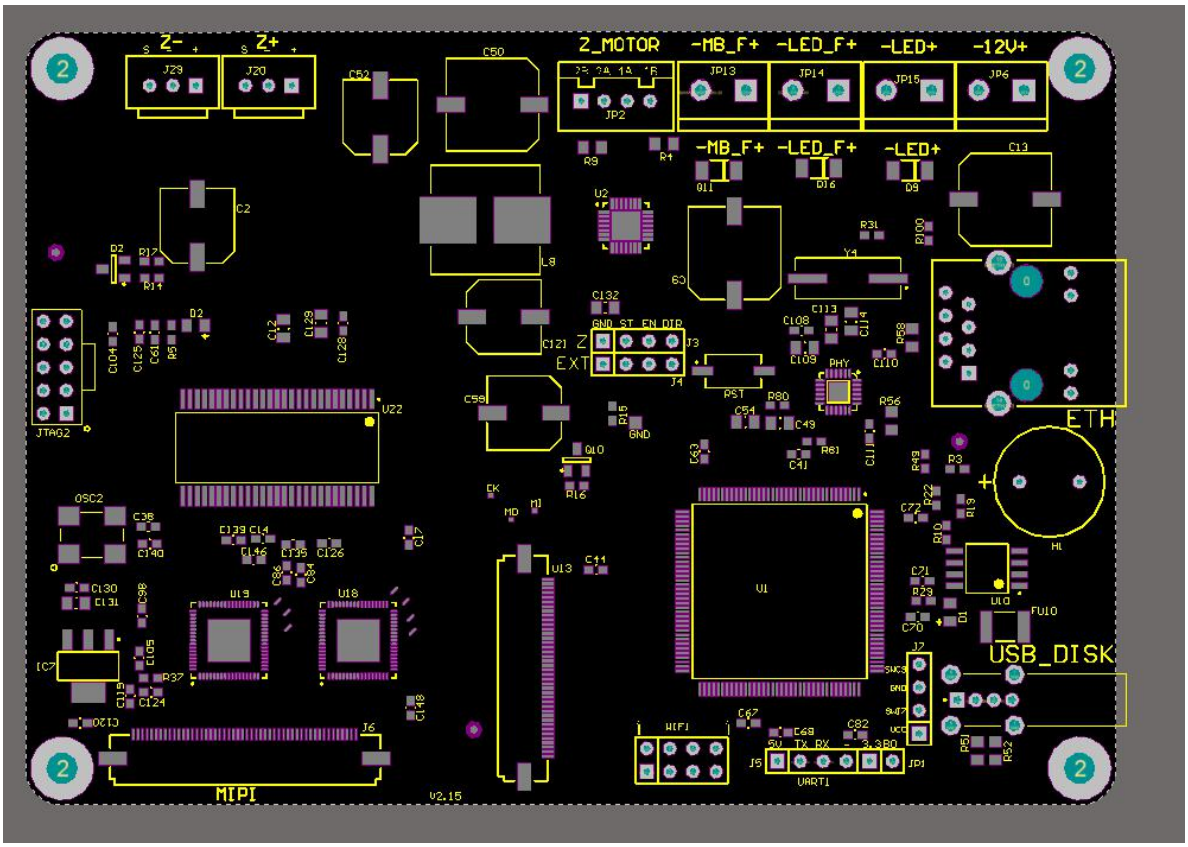
2.1 Specification

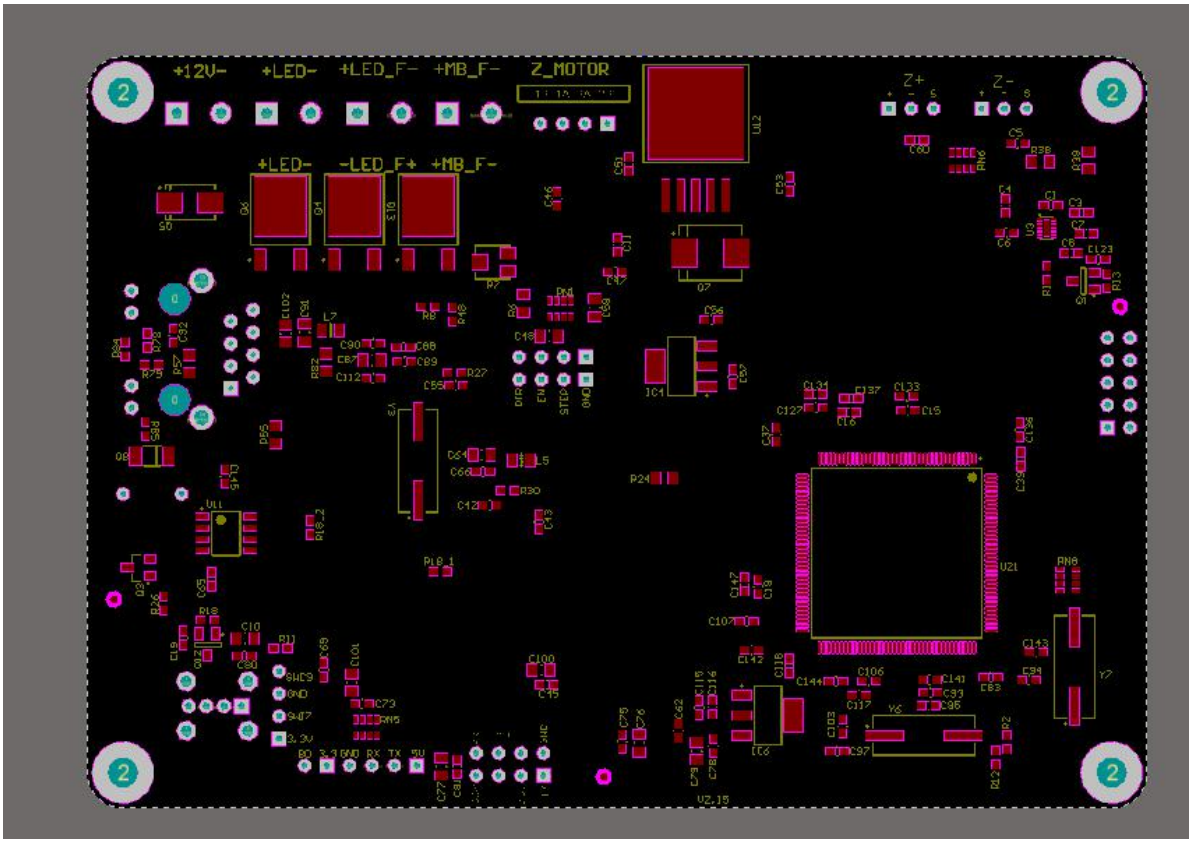
Microprocessor	ARM STM32F407（168MHz）
Input voltage	12-24V, 5-15A
Size	120*85mm （external 112*77mm）
Power Interface	Normal Type
Stepper Drivers	A4988
Stepper Drivers Interface	2 in total, Y;Z
Mosfet Interface	4 total;2 fans; 1 LED; 1 power supply
Data Interface	USB; Net port
LCD screen Supported	2.8″/3.5″/4.3″/5.0″
Slice File Format Supported	cbddlp
Software supported	CHITUBOX

2.2 Wiring & Size Pics






Z-
Z+
Z_MOTOR
-MB_F+
-LED_F+
-LED+
-12V+
ETH
USB_DISK
MIPI
JTAG2
V2.15


+12V-
+LED-
+LED_F-
+MB_F-
Z_MOTOR
Z+
Z-
V2.15

3. Microprocessor & Interface Introductions

3.1 Microprocessor

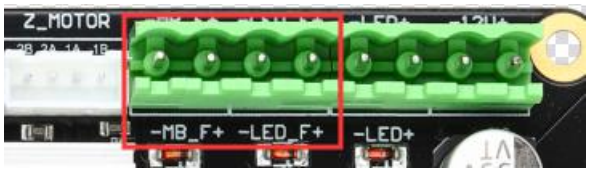
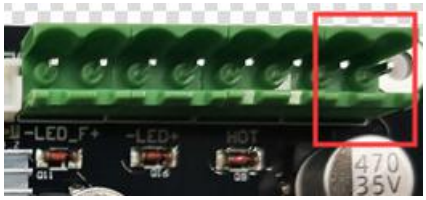
Pics	Description
	ARM STM32F407 Operating voltage electronics：3.3V Operating voltage High：12-24V Clock Speed：168MHz

3.2 Stepper Motor Interface

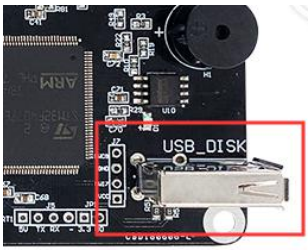
Pics	Description
	Motor Z Voltage：5V Interface Type：XH2.54-4P
	A4988 driver **12/24V** **Current: ⩽1.5A**

3.3 MOSFET Interface

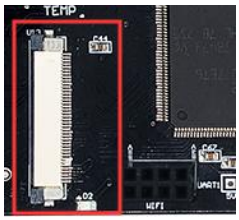
4 total;2 fans; 1 LED; 1 power supply

Pics	Description
 	**Fan** Voltage：12/24V Current：≤5A Interface Type：JM2EDGK-5.08 2P I/O Pin： MB_F+; MB_F- for board cooling LED_F+;LED_F- for LED light
	**Power Supply Input** Voltage：12/24V Current：≤5A Interface Type：JM2EDGK-5.08 2P I/O Pin：12/24+
	LED Voltage：12/24V Current：≤5A Interface Type：JM2EDGK-5.08 2P I/O Pin：LED+; LED-

3.4 Data Interface

Pics	Description
	**U disk** Voltage：5V Current：500mA Type：USB 2.0
	NetWork Port Type：RJ45

3.5 LCD Interface

Pics	Description
	**LCD** **Support 2.8/3.5/4.3/5.0 TFT touch screen** Voltage：3.3V 5V Type：0.5-40P
	LCD **Support 5.5-10.1 2K screen** Voltage：3.3V 5V Type：0.5-50P

4. Firmware & UI

4.1 Firmware

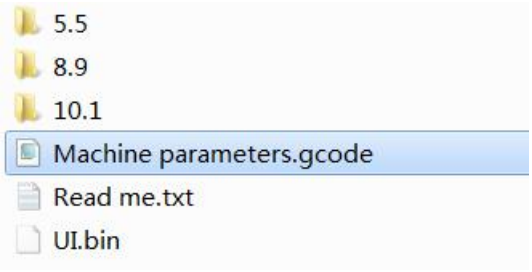
Get the firmware, copy the update.LCD file to the U disk(select right screen size),

restart the board you will hear the sound, when sound stops ,the screen will light up automatically, update is complete.

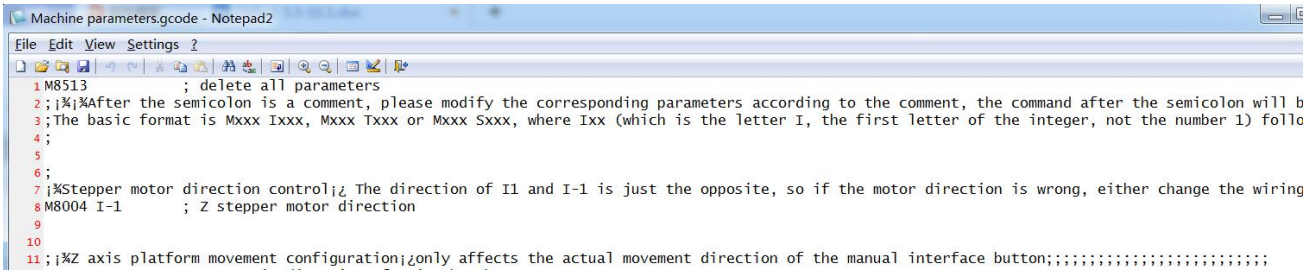
Note: The default firmware is the latest version. If the firmware version is the same (system> system information to see the version number), it will not be updated.

Profile parameter file

You will need to edit this part when customize your machine,



Open this file with txt(we suggest Notepad), there are detailed explanation for each parameter setting. You can edit the parameter according to your demand.

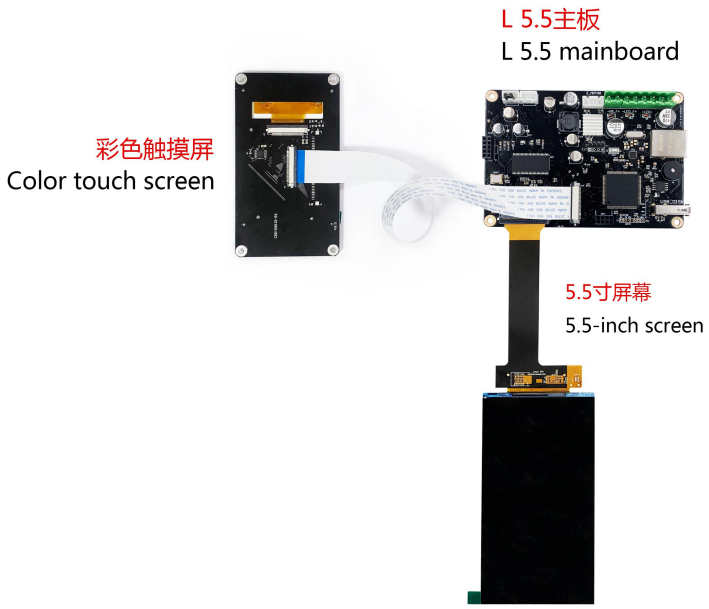


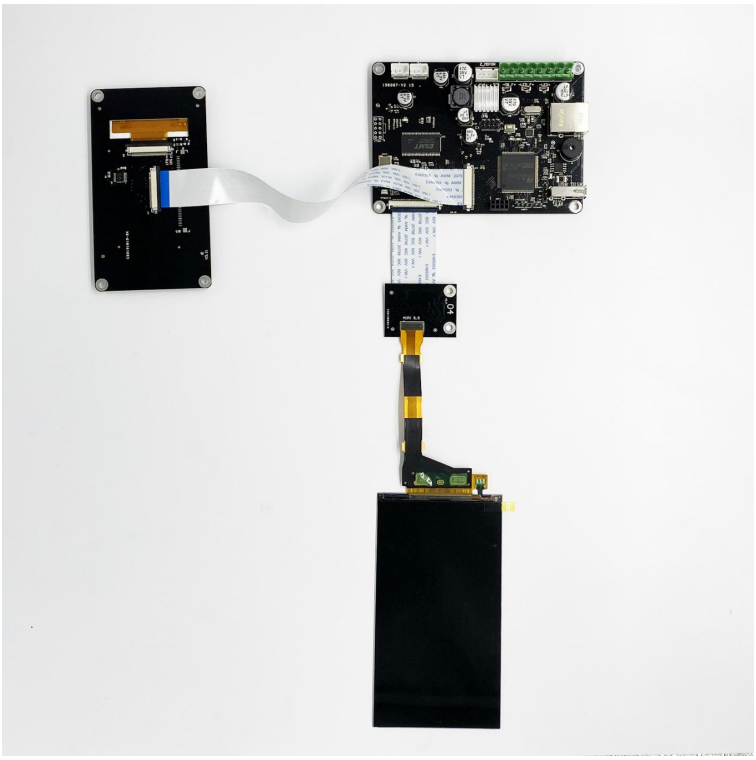
5. Related Module Guide

You can also find the detail on our website:

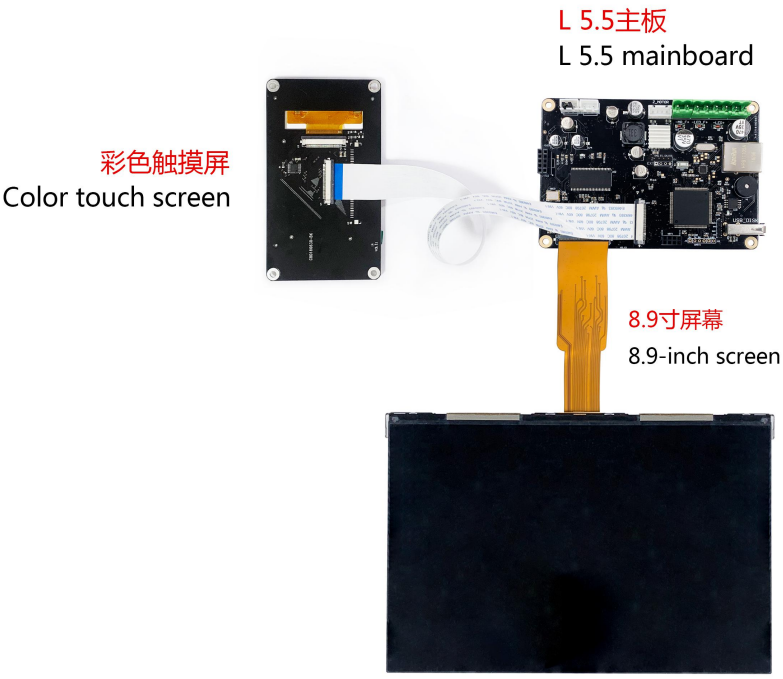
http://www.cbd-3d.com/support/newbie-guide/

5.1 5.5 inch wiring diagram





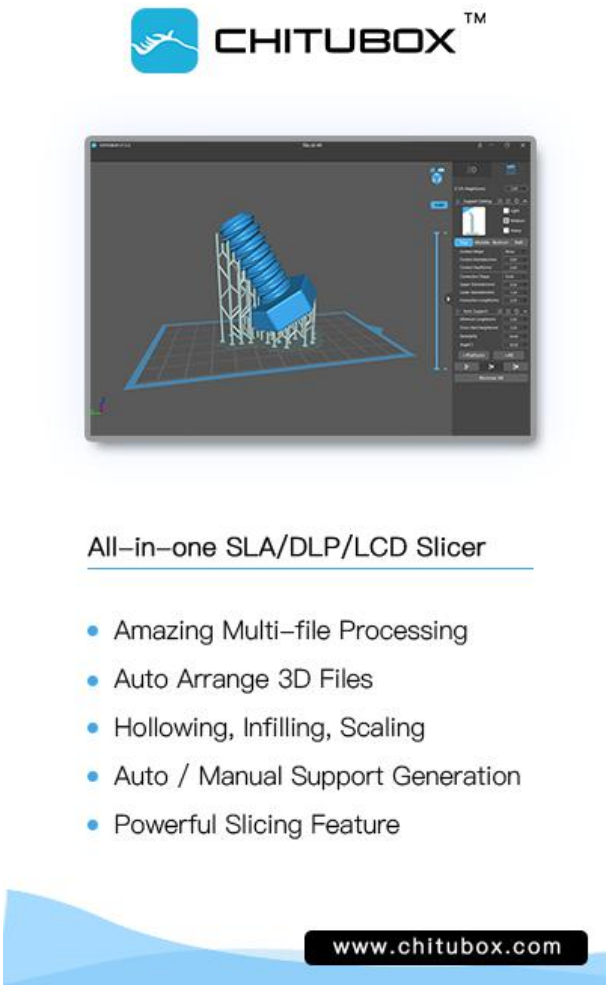
5.2 8.9 inch wiring diagram



5.3 10.1 inch wiring diagram

6. CHITUBOX Software

CHITUBOX is a powerful but easy-to-use 3D pre-process software produced by CBD-Tech. Established in 2013, CBD-Tech has been focusing on 3D printer controller system development to provide ChiTu controller boards with high speed and fine compatibility and multifunctional CHITUBOX slicer softwares. Whether hardware or software, we spare no effort to provide professional and stable techinical 3D printing solutions based on the principle "profession creates value".



Formed by specialists in the field of software development and testing, we are confident to become an important driving force for the development of 3D printing technology. In order to provide better user experience, we even hire a group of 3D printing experts domestically or aboard as part-time senior fellows and senior advisors. In the last 3 years, we do not just design something that we'd like to use but keep listening and iterating. Thanks for all the supports and suggestions.

7. Support

7.1 After sale service

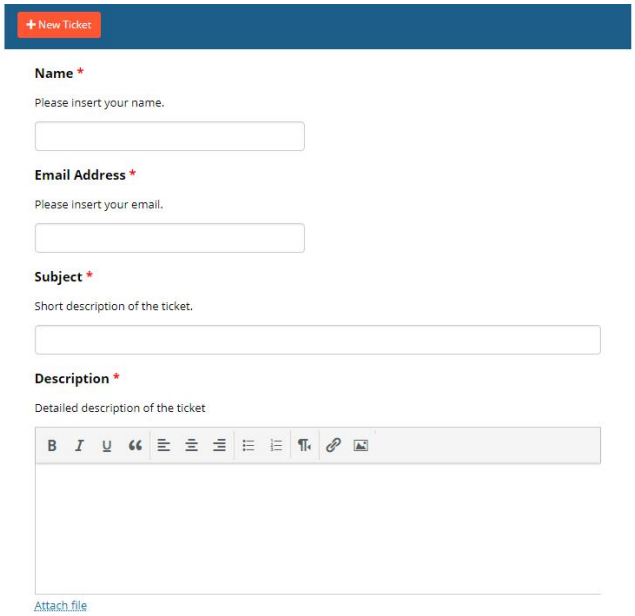
Note: Check the package when you get it, for any DOA(Dead on arrival) products CBD will send a brand new. Create ticket within 3days since you get the package.

a. We have 1 year warranty for customer support, Consider the international costs we are not available to accept return item, CBD will provide suggestion according to your situation.the shipping cost will follow the b and c point. Microprocessor not include.

b. 1-3 months we will afford shipping cost.

c. 3-12 months you will need to pay shipping cost if need new accessory.

d. Make sure you use the right accessory on board in case burn or destroy the board,we are not responsible



7.2 Knowledgebase & FAQ

We have collected all kinds of issue may happen with the ChiTu board and prepared a huge document in our knowledgebase page, please learn more from our website here：

http://www.cbd-3d.com/support/knowledge-base/

7.3 Ticket System

We have set a ticket system so you can create a ticket with any question to CBD-Tech. No matter if you bought our product or you are going to cooperate with us, feel free to submit tickects and our represent will reply you in 24 hours on work days.

http://www.cbd-3d.com/contact-us/

7.4 Social Media

You may also find some helpful information and troubleshooting from our social media tutorials and posts.And welcome to leave your feedback on our social medias.

7.4.1 ChiTu Board

Facebook Page https://www.facebook.com/CBD3D	
Facebook Group https://www.facebook.com/groups/524123865039248	
YouTube https://www.youtube.com/channel/UCR_Y4rVo7A_6WShltR_zwTg	
Twitter https://twitter.com/ChiTuController	
Instagram https://www.instagram.com/chitu_board/	

7.4.2 CHITUBOX Software

Facebook Page https://www.facebook.com/chitubox/	
Facebook Group https://www.facebook.com/groups/104983723495672/	
YouTube https://www.youtube.com/channel/UCD4m1SdLs_VokY2133ZqUgQ	
Twitter https://twitter.com/chitubox	
Instagram https://www.instagram.com/chitubox_official/	