Chitu V3.1 User Manual

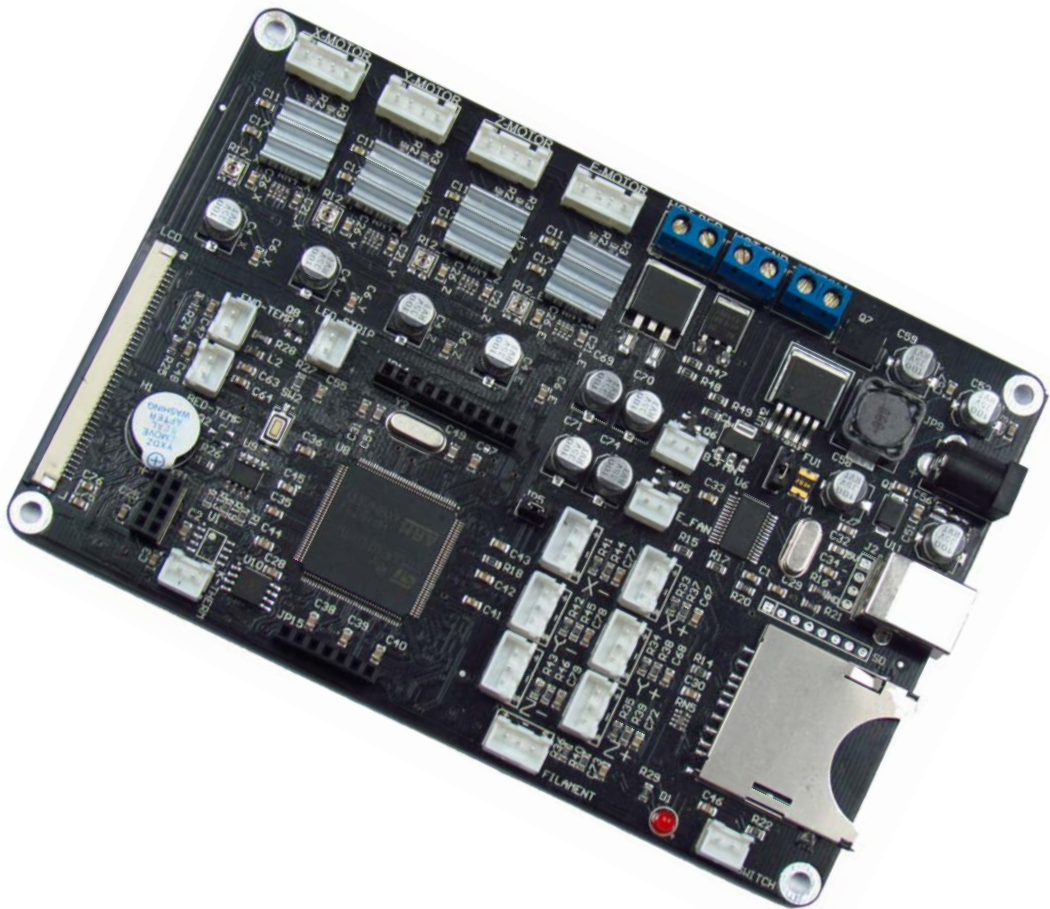**Compiler**：<u>Pitt Xie</u>   **Date: 15/08/2014**

Reviewer：<u>David Yi</u>   **Date: 15/08/2014**

Approver：<u>Sam Lin</u>   **Date: 15/08/2014**

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Technical Supports

Please contact us if you have any interest in finished product of 3D printed pieces, development board and related modules or is you desire for more technical information as well as supports:

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1.Introduction

The main board of "Chitu" carries high speed microchip with 32 bit, adopting self-developed firmware that enjoys the advantages of open source firmware. Besides, it also carries out repeated optimization, employing SD file configuration mode which will bring about convenient and quick renewal.

"Chitu" mainboard matches color touch screen, enjoying simple interface and high sensitivity. The firmware has experienced arc optimization, PID temperature stability optimization, which is in favor of breakpoint saving and shutdown automatically after printing. Currently, the screen interface customization services is provided, offering you a platform to display the company. The system supports bilingualism, the language is changed via one key.

1.1 Parameters of Mainboard

External Dimension:150*100mm

Microprocessor : STM32

Input Voltage : 12V~24V 10~15A

Power Interface: Switching power supply or adapter

Motor Driver: Allegro A4988 (1/16 microstepping)

Motor Driven Interface: Single head motherboard has four motor interface

Double head motherboard has five motor interface

Temperature Sensor Interface: 3 paths of 100K NTC (thermistor)

2 paths of MAX6675（thermocouple）

Color Touch Screen: 2.8 or 3.5 inches of TFT

Upgraded Firmware supporting SD card (supports 8G<= FAT 16 and FAT32)

Square USB that is convenient in pull and plug，Communication Baud Rate is 115200

File Format Supported: G-code

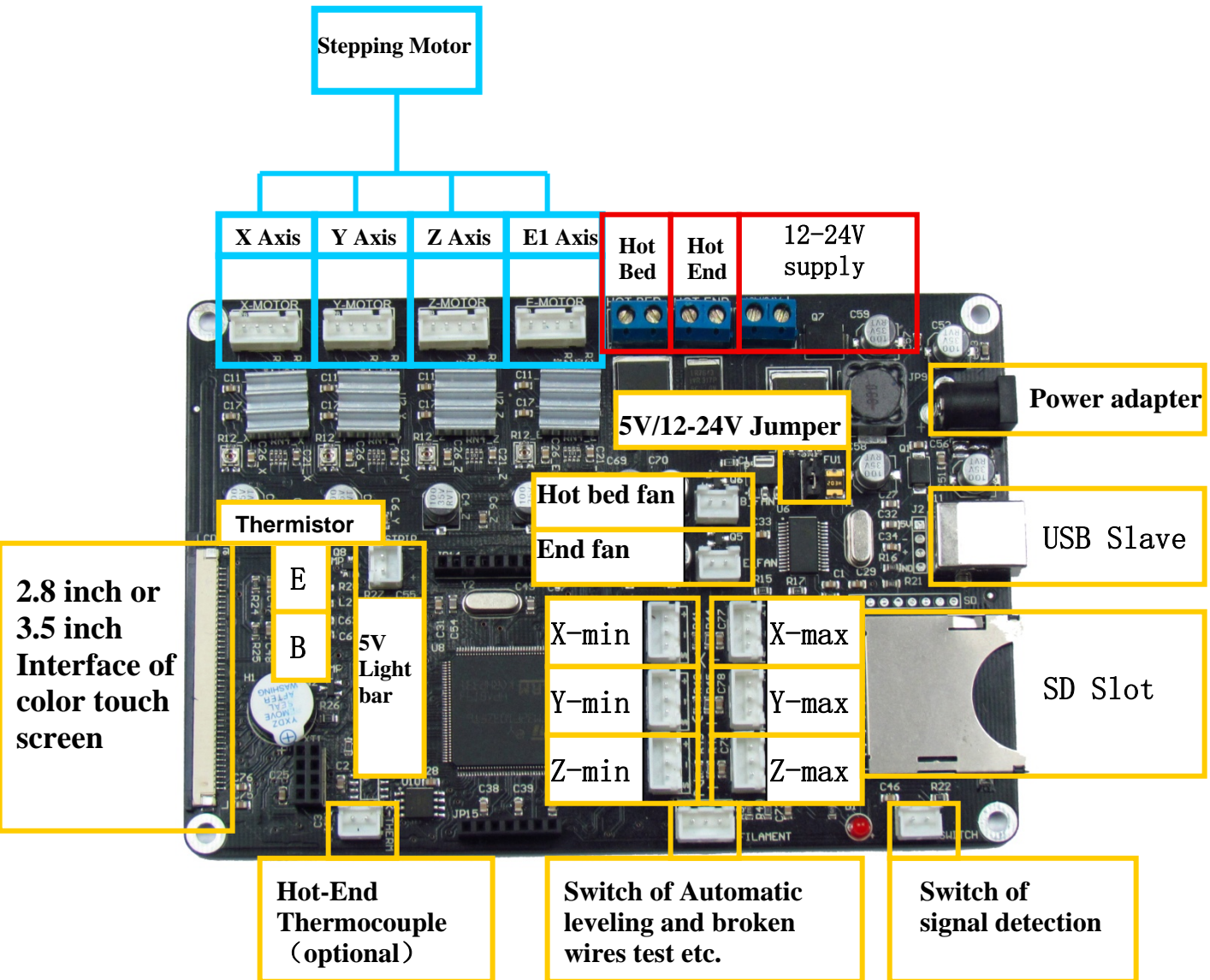Machine Structure Supported: XYZ type, Ultimaker type, Hbot type, Delta，Kossel type.

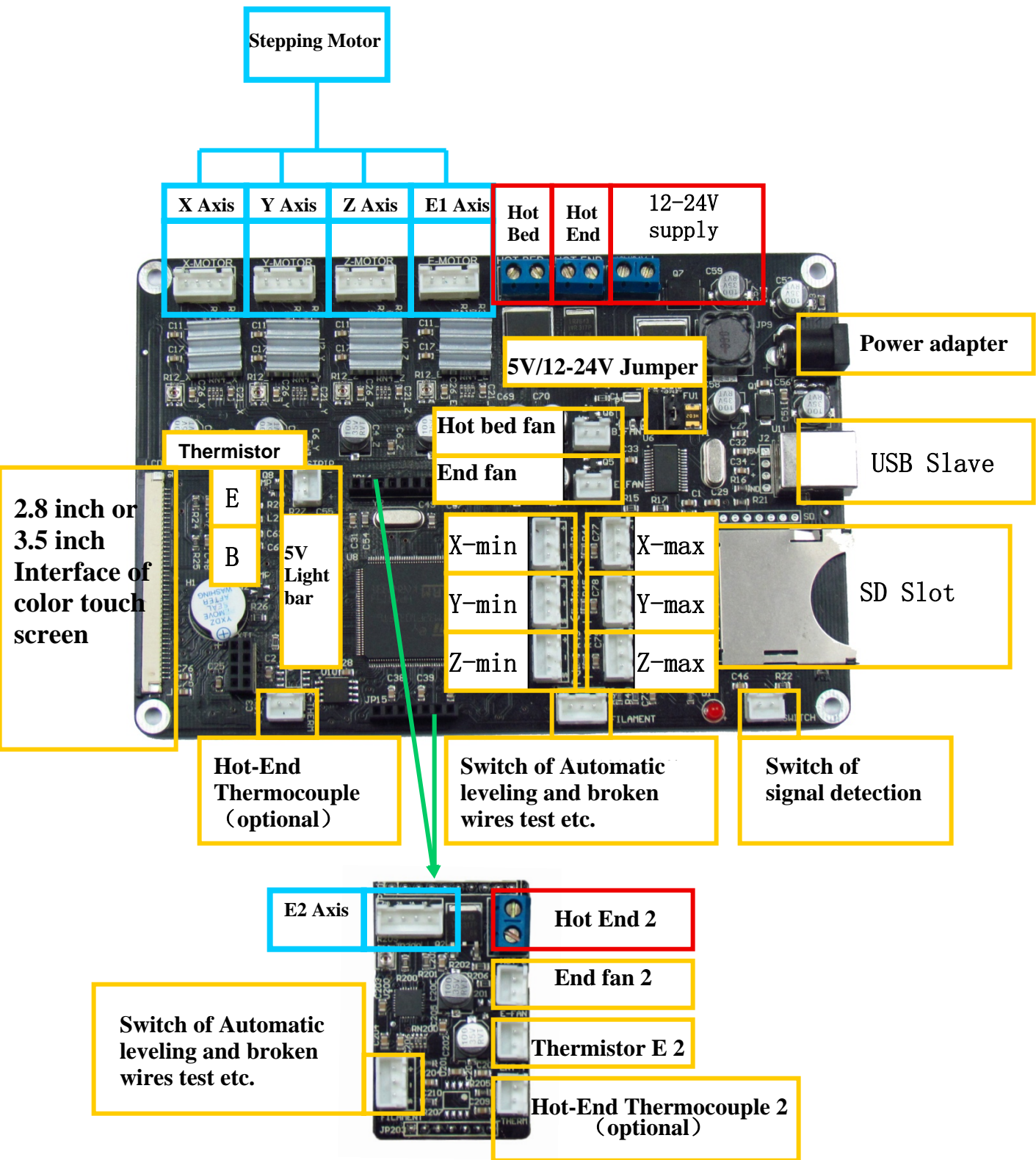Recommendation of Software: Cura/Repetier-host/makerware

1.2 Interface Layout

Single-head Mainboard

Double-head Mainboard

Stepping Motor

| X Axis | Y Axis | Z Axis | E1 Axis |

Hot Bed **Hot End** **12-24V supply**

Power adapter

5V/12-24V Jumper

USB Slave

Hot bed fan

End fan

Thermistor

E

B

2.8 inch or 3.5 inch Interface of color touch screen

5V Light bar

X-min   X-max

Y-min   Y-max

Z-min   Z-max

SD Slot

Hot-End Thermocouple（optional）

Switch of Automatic leveling and broken wires test etc.

Switch of signal detection

E2 Axis

Hot End 2

End fan 2

Switch of Automatic leveling and broken wires test etc.

Thermistor E 2

Hot-End Thermocouple 2（optional）

2.How to Use

① Firmware Parameters Setting

Open the file of **Complete machine parameters V1.2.0.gcode** (the one with the notepad icon with file ending .gcode)with notepad.

Set the related parameter in line with machine parameters, which is shown as follows.

Motherboard and screen size chart	2015/1/3 15:51	文件夹	
PL2303 driver (for XP, vista 32 and 6...	2015/1/3 14:58	文件夹	
Chitu V3.1 users manual.pdf	2015/1/3 22:37	PDF 文件	1,071 KB
Complete machine parameters V1.2....	2015/1/3 22:19	GCODE 文件	11 KB

Click to "save" after allocation, which is shown as follows.
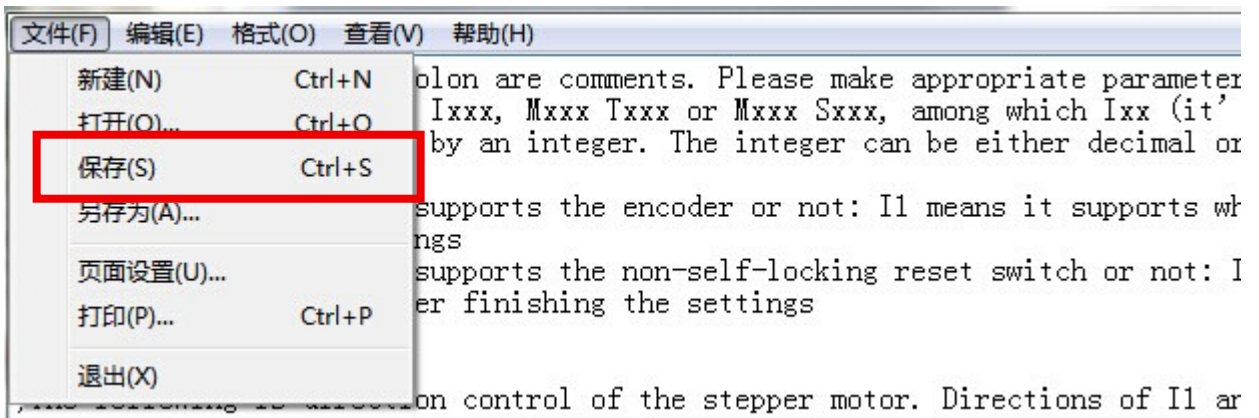
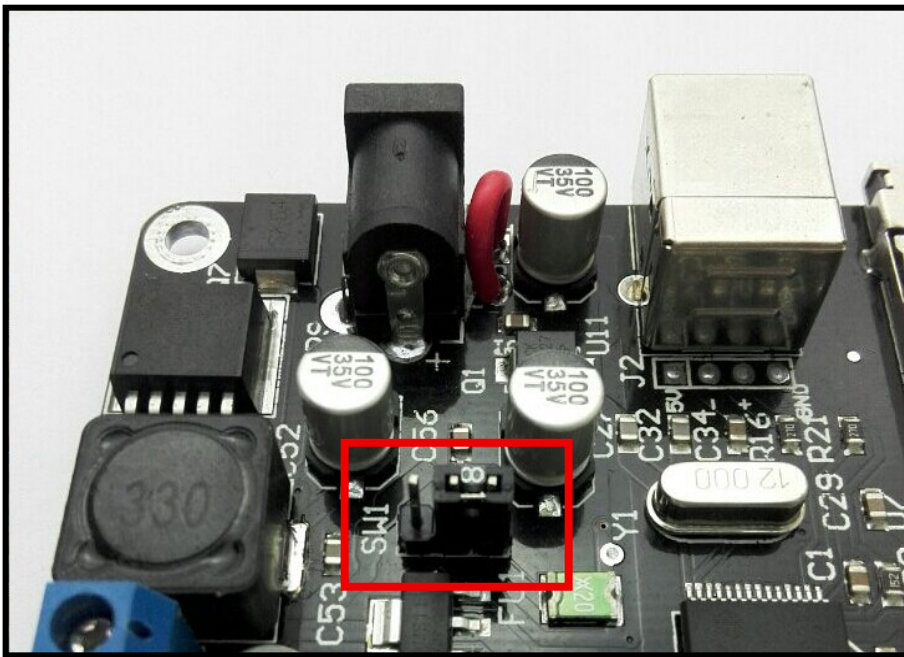Take the allocation of **Complete machine parameters V1.2.0.gcode** into SD card.
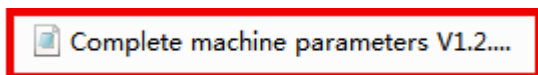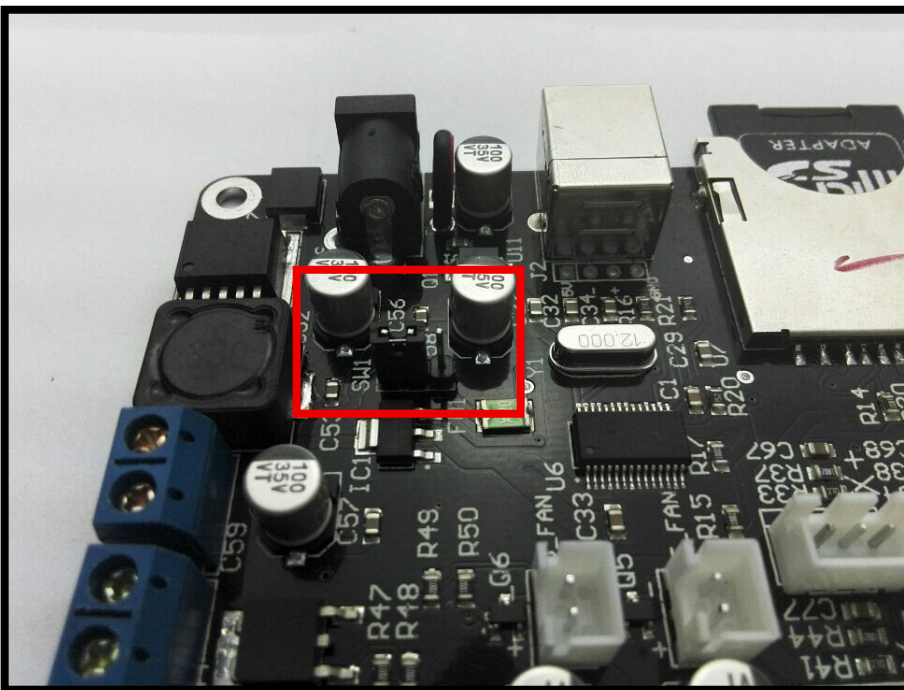

SD Card

② Update Firmware in SD Card

Plug the jumper cap of 5V/12-24V, supplying for USB. There are two kinds of power supply.


USB（5V) Power Supply

Power Supply（12-24V）

Choose one of the above methods. Take USB supply as example, plug the jumper cap and connect screen flat cable. The screen will light up.

After the SD card is plugged, choose the file of **Complete machine parameters V1.2.0.gcode** and print. When printing is finished(about 2s-3s), the firmware parameter is updated, shown as following figure.
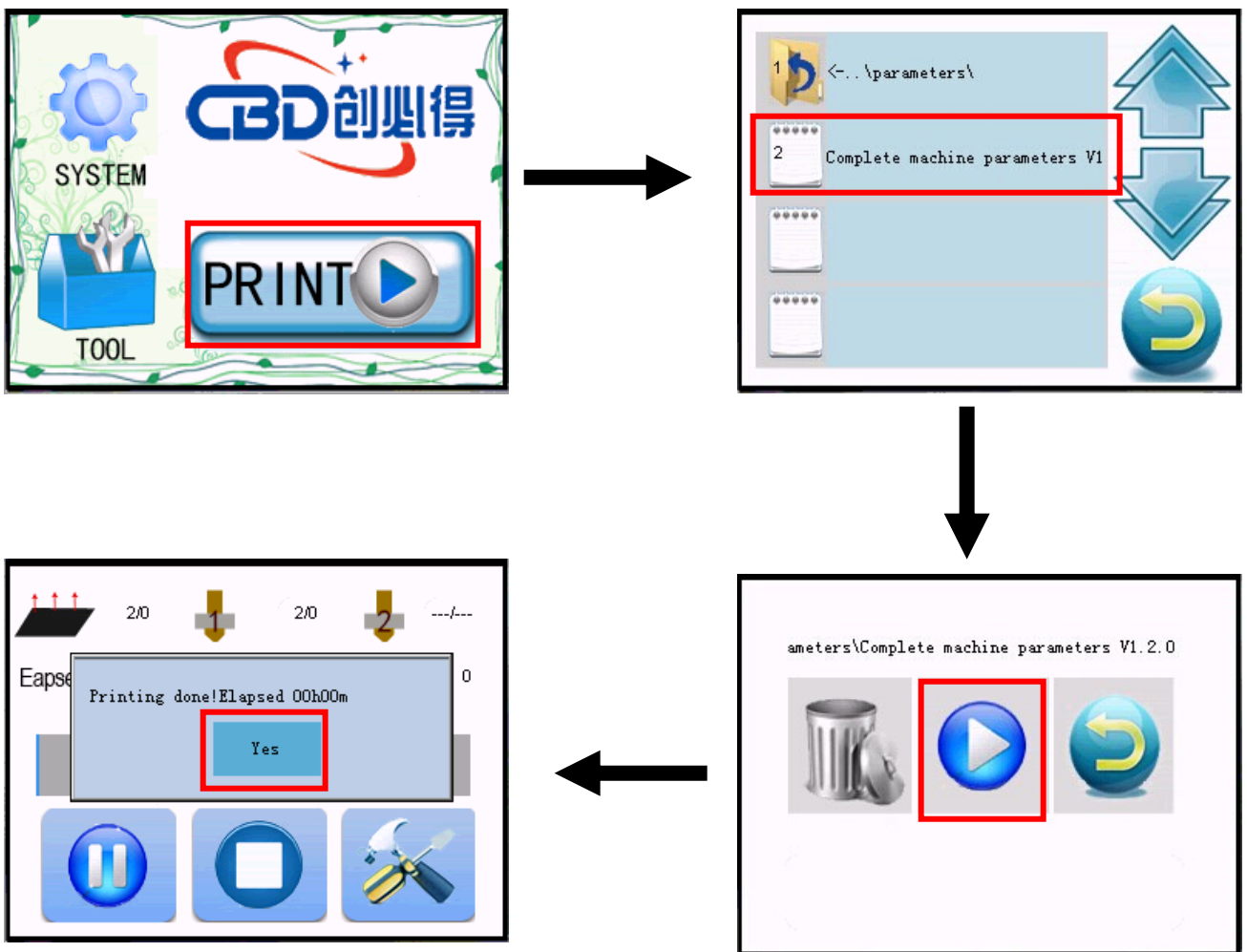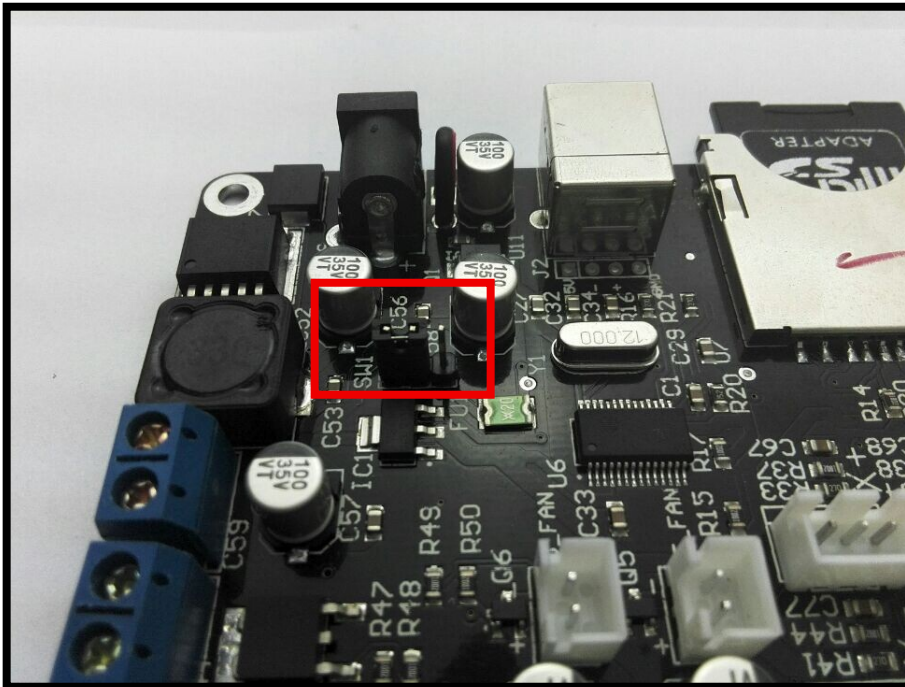
③ Computer Test Printing

After the connection of all the external devices, plug the jumper cap of 12-24V, which is shown as follows.

When the machine is initiated, it is recommended to print some small models so as to test the validity and accuracy of parameters. Make adjustment to parameter according to print effect until the printing is in good condition.

3.FAQ

1.Why does not the screen light up after the connection and plugging of USB or power supply?

Answer：

(1) Wrong connection of power supply jumper cap.

(2) Poor contact of flat cable on both sides of screen. It is recommended to pull out and plug again.

2. Why does not the limit switch stop after trigger?

Answer：

(1) Wrong setting of direction of electrical machine.

(2) Wrong setting of structure type of limit switch in terms of machine parameters.

3. The electrical motor does not rotate？

Answer： Wrong connection of electrical motor and false identification between inverting and non-inverting.

4. Failure in installation of drive?

Answer： To begin with, install build-in files of folder. If it fails, it is suggested to employ drive software like Driver Genius for one-click installation.

Driver Genius download:
http://www.driver-soft.com/download.html