

MKS SBASE

Overview

MKS-SBASE is a latest version of 3D Printer main board by Makserbase(MKS). It is based on ARM platform and using 32bit 100M Cortex-MS MCU-LPC1768.

Respect to MKS SBASE V1.0 :

MKS SBASEV1.2

- 1.Fix temperature problem.
- 2.Add thermocouple Pins(can't be used with 12864lcd together).
- 3.Create P1.22 P1.23 P2.12 P2.11 P4.28 for developing.
- 4.Extend endstop power 3.3V / 5V.
5. Pre-install two big heatsinks.

Features

1. Using 32bit 100M Cortex-M3 MCU-LPC 1768, and improve its performance highly.
- 2.Support highly modular open source firmware Smoothieware, easy for secondary development.
3. Support network function, then proceed remote control via IE Explorer.
4. Using DRV8825 stepper driver which supports 32-microstep and with excellent cooling.
5. Currents of the stepper motor can be set directly, which can avoid the damage .
6. Using high quality FR-4 4 layers PCB and special design for cooling.
7. Using professional power chip, support 12V-24V DC input

Website: www.makerbase.com.cn

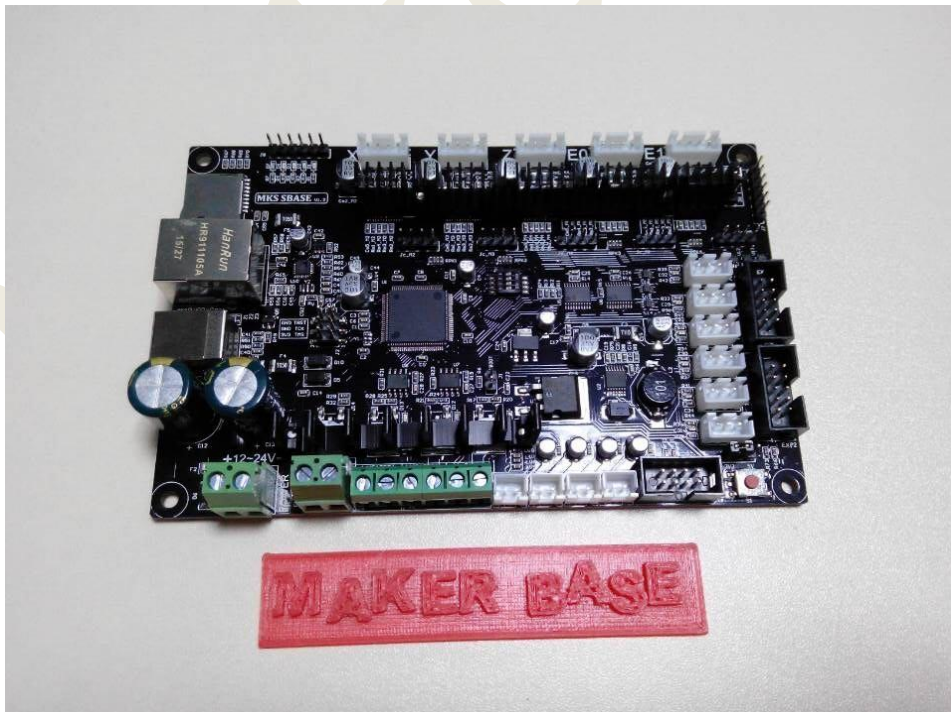
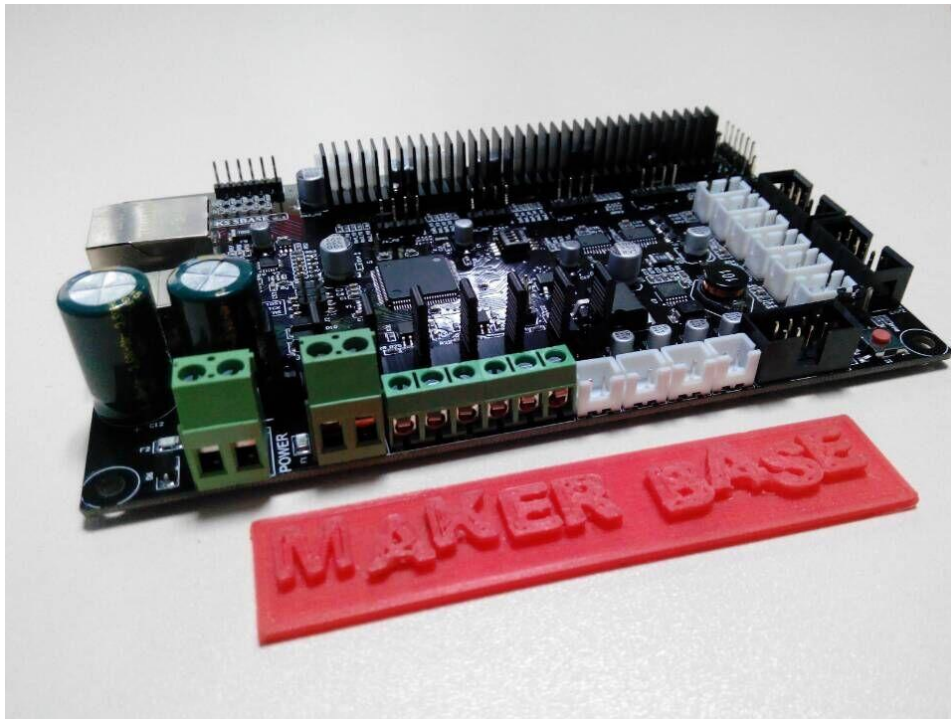
Database: <https://github.com/makerbase-mks>

E-mail: 2228481602@qq.com.529442067@qq.com. 4164049@qq.com.

Address: Room C407,He Jing Industrial Design Science and Technology Park,No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.

8. Good to work with 12864LCD and MKS TFT touch screen.

MKS SBASE Prototype Photo



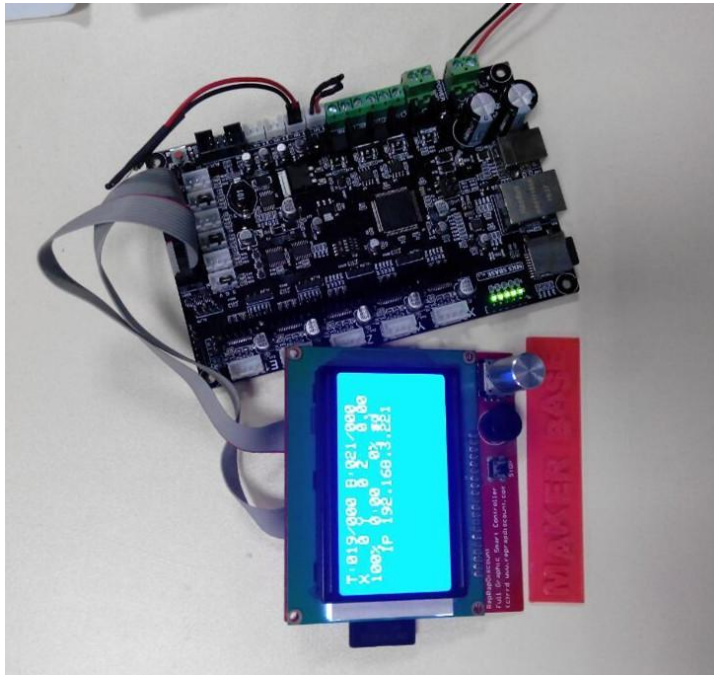
Website: www.makerbase.com.cn

Database: <https://github.com/makerbase-mks>

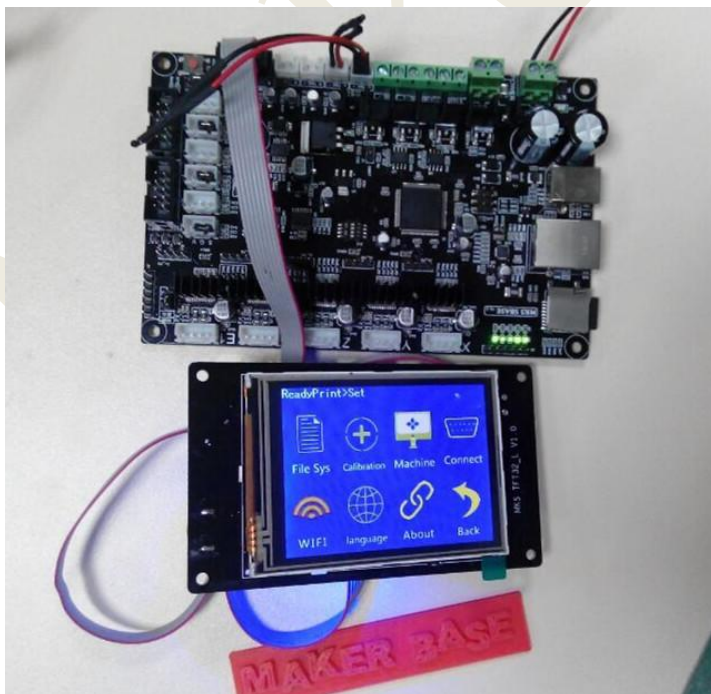
E-mail: 2228481602@qq.com, 529442067@qq.com, 4164049@qq.com.

Address: Room C407, He Jing Industrial Design Science and Technology Park, No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.

SmartController



MKS SBASE and 12864LCD



MKS SBASE and MKS TFT

Website: www.makerbase.com.cn

Database: <https://github.com/makerbase-mks>

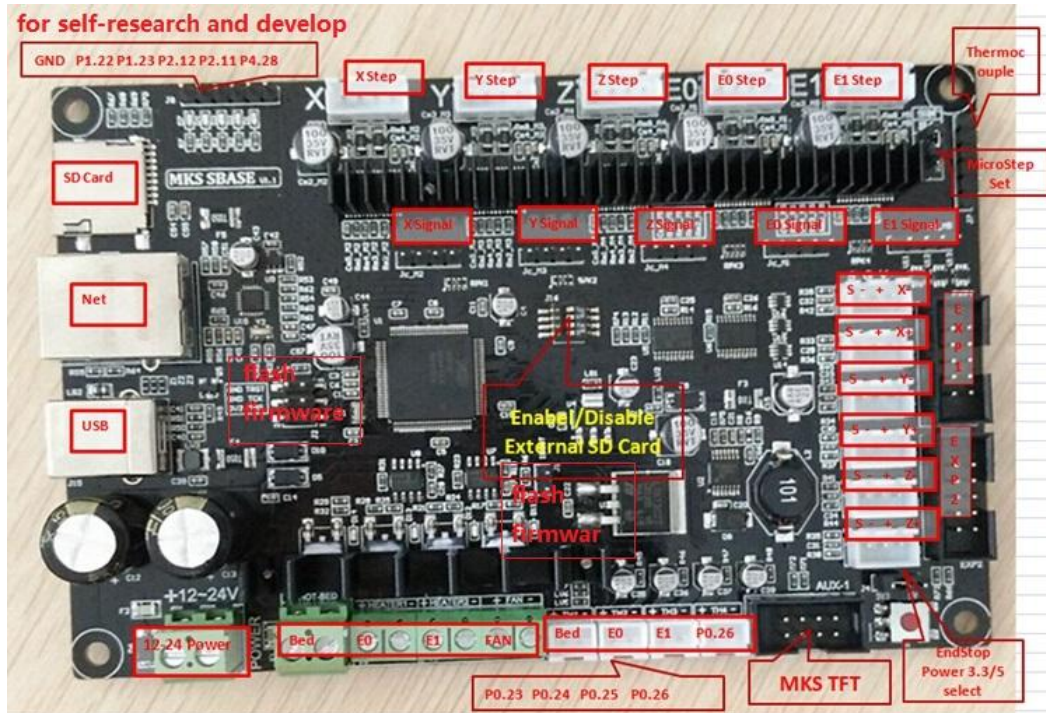
E-mail: 2228481602@qq.com. 529442067@qq.com. 4164049@qq.com.

Address: Room C407, He Jing Industrial Design Science and Technology Park, No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.

Wiring

Wiring plan based on available information.

MKS SBASE Connectors



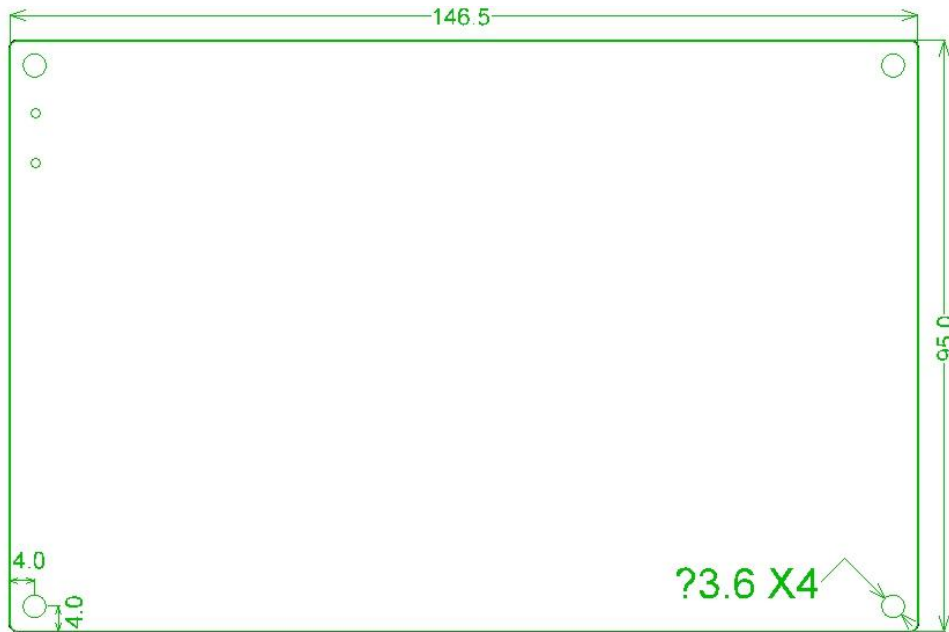
MKS SBASE Size

Website: www.makerbase.com.cn

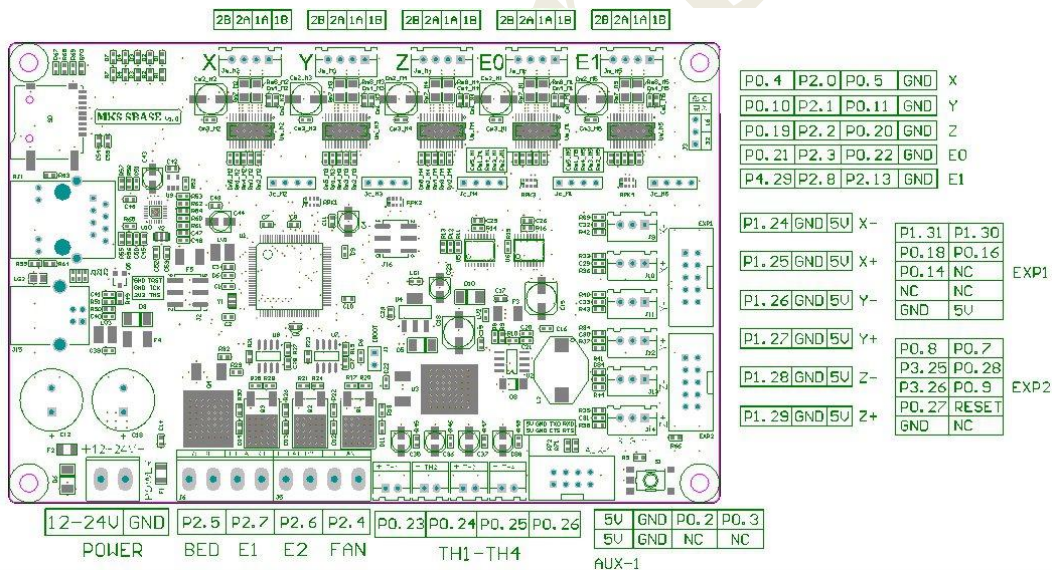
Database: <https://github.com/makerbase-mks>

E-mail: 2228481602@qq.com, 529442067@qq.com, 4164049@qq.com.

Address: Room C407, He Jing Industrial Design Science and Technology Park, No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.



MKS SBASE PIN



How to use

- Copy "firmware.bin" and "config" from config file to SD card. Need to change config name .For example:

Change config-mks-xyz into config.txt

Website: www.makerbase.com.cn

Database: <https://github.com/makerbase-mks>

E-mail: 2228481602@qq.com.529442067@qq.com.4164049@qq.com.

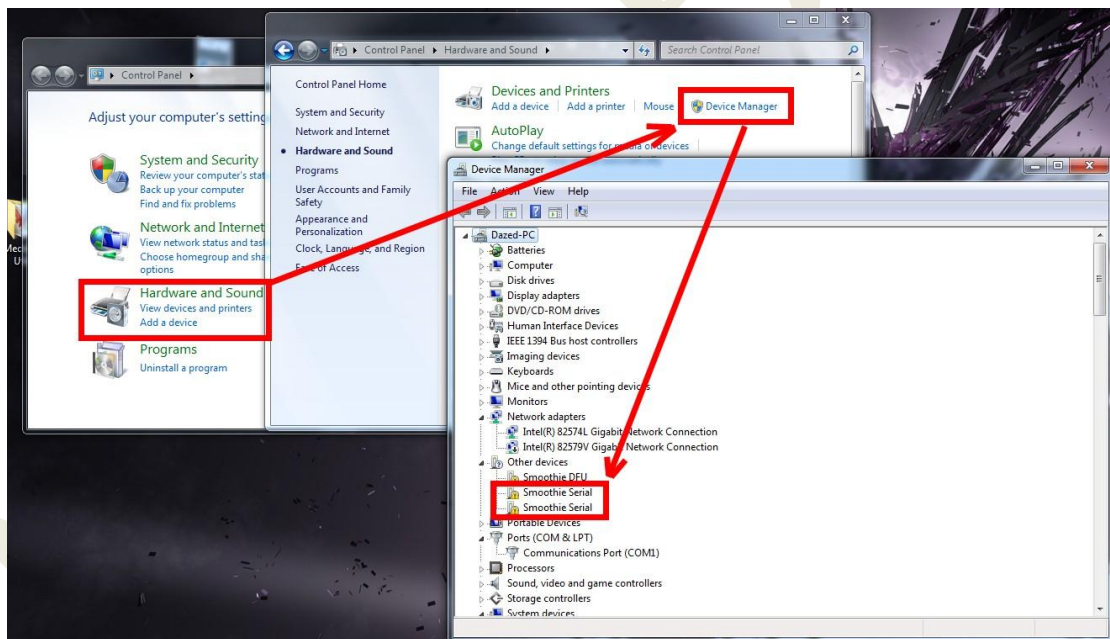
Address: Room C407,He Jing Industrial Design Science and Technology Park,No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.

- 2、 Adjust config.txt according to the configuration .
- 3、 Refer to MKS-SBASE PIN , make correction connection. Such as stepper motor ,endstops.
- 4、 Plug the SD card to the board, after power on, it will automatically update .
- 5、 If connect computer with USB, need to install the driver(Refer to below specification).

Install the driver

First, you should upload the smoothieware-windows-signeddriver.zip, and extract.

Then, plug the USB to computer . Next, enter device manger .



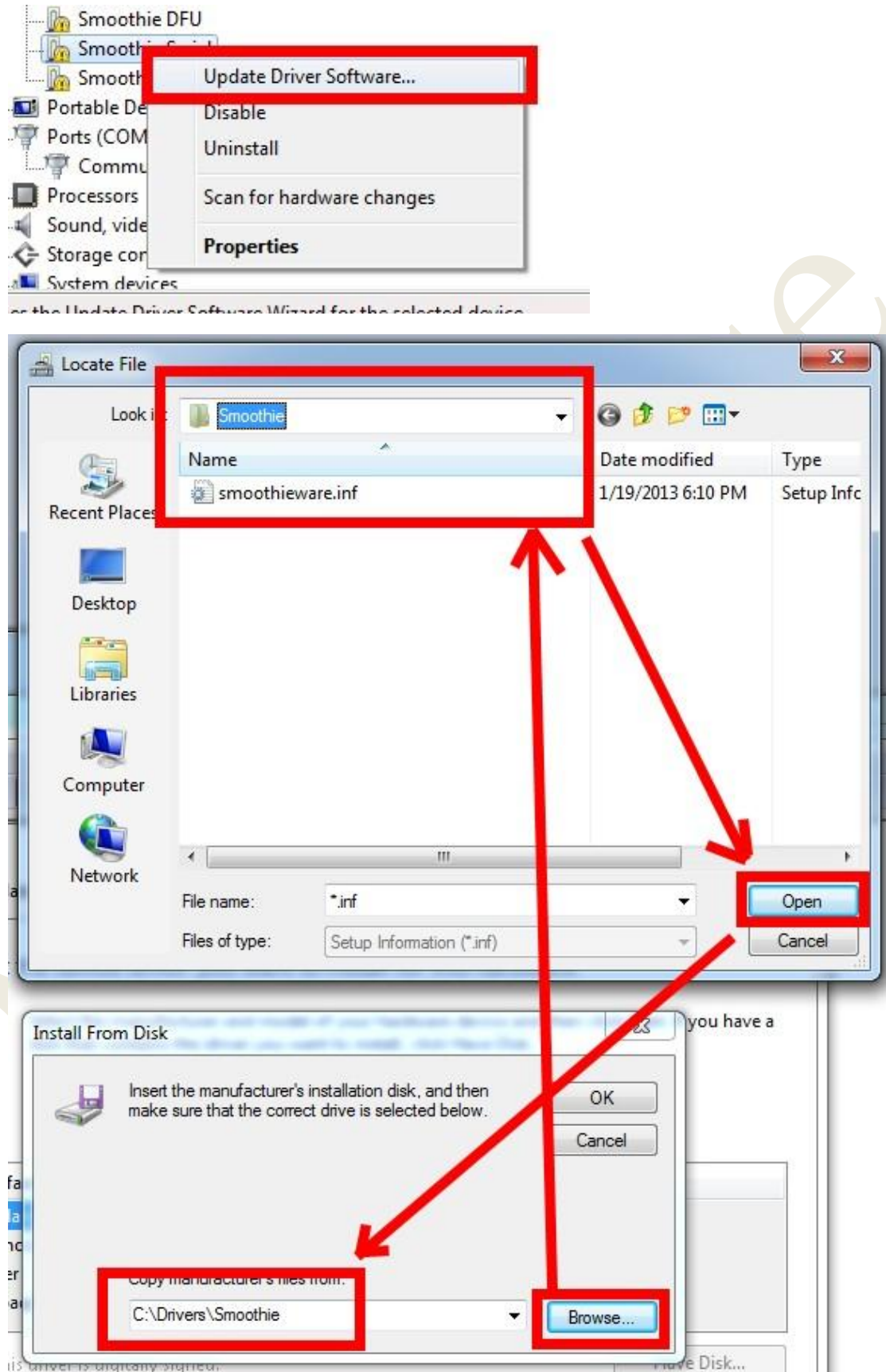
Update the Driver Software.

Website: www.makerbase.com.cn

Database: <https://github.com/makerbase-mks>

E-mail: 2228481602@qq.com.529442067@qq.com. 4164049@qq.com.

Address: Room C407, He Jing Industrial Design Science and Technology Park, No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.



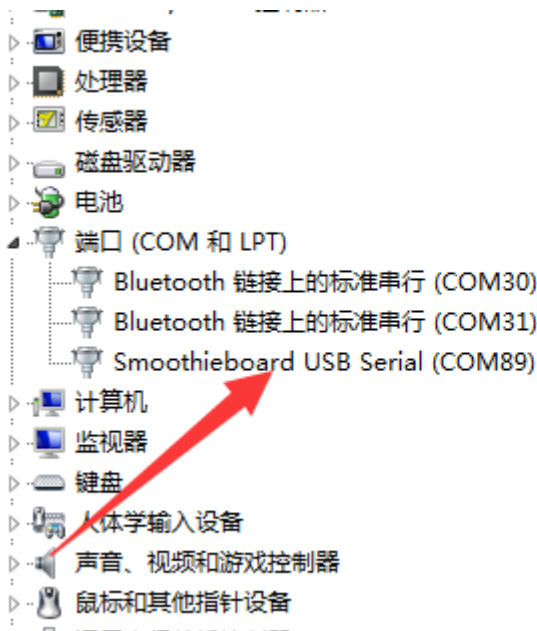
Website: www.makerbase.com.cn

Database: <https://github.com/makerbase-mks>

E-mail: 2228481602@qq.com. 529442067@qq.com. 4164049@qq.com.

Address: Room C407, He Jing Industrial Design Science and Technology Park, No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.

Then will turn up COM after install successfully.



Download new firmware and update

Please upload firmware from our github: <https://github.com/makerbase-mks/> .

Copy configuration (including firmware.bin and config.txt) to SD card, insert to the board and power on, it will automatic update .

After successful updated, the file name will turn into **firmware.cur**

Others

1.Support Gcode. Please refer to <help>G-Codes. htm .

2.Main parameter setting

It is very easy to set the parameter . First, open config.txt on SD card, then modify the parameters and save. Re-power on.

Details on parameter, please refer to Configuration_Options.

(1)、Here below are the parameters should be set according to your machines.

Website: www.makerbase.com.cn

Database: <https://github.com/makerbase-mks>

E-mail: 2228481602@qq.com.529442067@qq.com.4164049@qq.com.

Address: Room C407,He Jing Industrial Design Science and Technology Park,No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.


```
alpha_steps_per_mm 80
#steps per mm for X axis stepper
beta_steps_per_mm 80
#steps per mm for Y axis stepper
gamma_steps_per_mm 1600
# steps per mm for Z axis stepper
alpha_current 1.0
#Setting the Currents of X axis stepper, best not bigger than 2
beta_current 1.0
#Setting the Currents of Y axis stepper motor, best not bigger than 2
gamma_current 1.0
#Setting the Currents of Z axis stepper motor, best not bigger than 2
extruder.hotend.steps_per_mm 90
#steps per mm for E0 extruder motor
delta_current 1.5
# Setting the Currents of E0 extruder stepper motor, best not bigger than 2
```

(2)、 Here below are the parameters you can choose to set.

```
acceleration 600
#Acceleration for the stepper motor, unit is mm/s2

z_acceleration 60 #Acceleration for the Z axis stepper, unit is mm/s2,
DELTA Printer do not need to set it
alpha_dir_pin 0.5
# Pin for the dir signal of X axis motor, do not change parameter and add !
symbol, motor will change the direction of turning.
beta_dir_pin 0.11!
```

Website: www.makerbase.com.cn

Database: <https://github.com/makerbase-mks>

E-mail: 2228481602@qq.com.529442067@qq.com.4164049@qq.com.

Address: Room C407, He Jing Industrial Design Science and Technology Park, No. 23 Guangzhou Road, Liwan District East Sha Industrial Zone, Guangzhou, PRC.

Pin for the dir signal of Y axis motor, do not change parameter and add !
symbol, motor will change the direction of turning.

gamma_dir_pin 0.20!

Pin for the dir signal of Z axis motor, do not change parameter and add !
symbol, motor will change the direction of turning.

extruder.hotend.dir_pin 0.22

Pin for the dir signal of E0 extruder motor, do not change parameter and add !
symbol, motor will change the direction of turning.

temperature_control.bed.enable true

#Using true for able the headed bed and false for enable.

switch.fan.enable true

#Using true for able the Fan and false for enable.