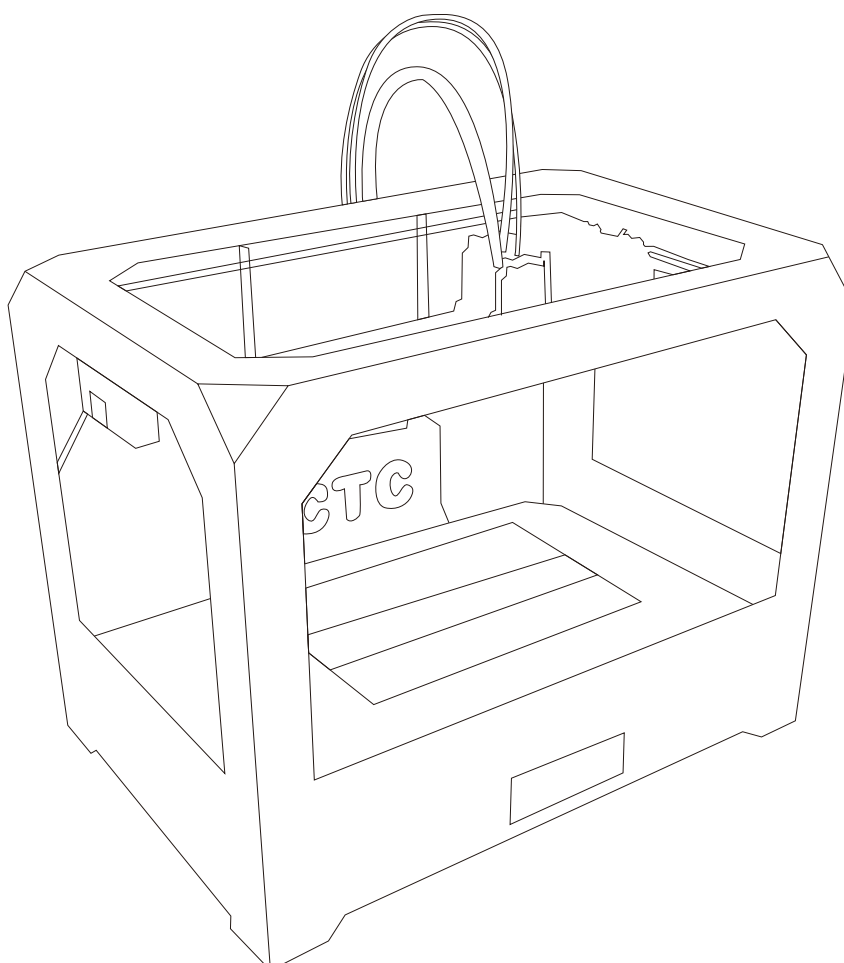


Manual of FDM 3D Printer



ZHUHAI CTC ELECTRONIC CO, LTD

Company Links : www.ctc4color.com
www.ctcprinter.com

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Let's go

1. Instructions matters

Manual Introduction

This User's Guide includes product description, operating instructions, print a test model, consisting of maintenance and troubleshooting, and several other parts. Please read it carefully, and use the 3D printer based on the contents of the specification.



Precautions

This product is due to the different regions from each customer, and the voltage of each region are different, so please make sure how much voltage before you use the printer in your area (generally 110v and 230v)

This product required the customer's printer maintenance after using a period of time, it can extend the life of the printer with regular proper maintenance.

Safety Precautions

Our company do not recommend using other brands of supplies, in order to get the 3D best printing results, please use our special supplies. If use other supplies caused by maintenance and repair, its not included in our company's warranty.

When the printer is printing or just finished printing , please do not touch the rest of the model, the head of printer and the platform or the internal body due to the high temperature .

Contact Us

If you need to contact the after-sale 3D printers service, you can add my company's group number "102304634" directly SD card user guide : about 3D printers use and troubleshooting information, available on the instruction included, you also can add my company's 3D printing community (group no. "102304634") for online technical support.

You can add my company's sina weibo, it always update my company's new technology and software upgrades, add sina weibo have access to random rewards and prizes "a tablets "go into the sina weibo search CTC 3D printing in the future "concern" and “reprinted”can get more opportunity and higher rewarded .

Accessories List

number	the name of material	quantity	unit
1	3D printer	1	table

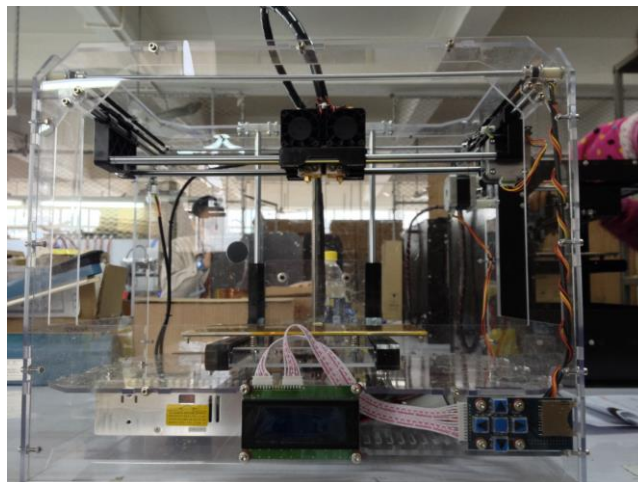
2	power line	1	root
3	USB cable	1	root
4	toolkit	1	cover
5	SD卡	1	piece
6	printing supplies	1	volume
7	hanging material column	2	slip

Product Category

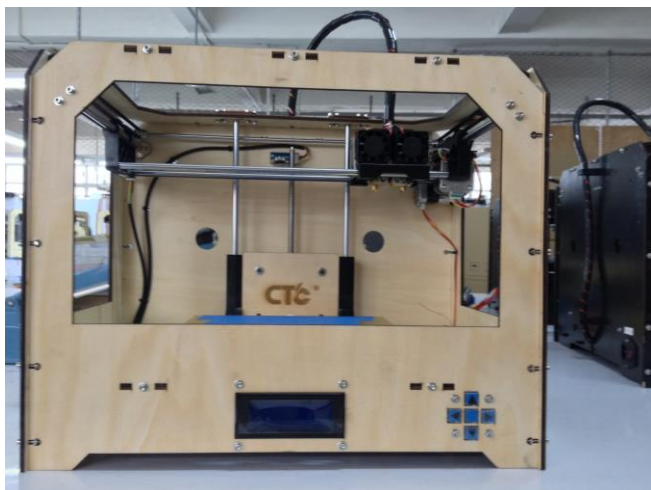
Product Categories

3D printing is based on the west fuse deposition manufacturing process (FDM) rapid prototyping device that connected to the computer via an SD card online or print spooling, only an ordinary computer can be completed via USB cable to print, as long as you there have STL 3D file format you can complete a variety of print job complex three-dimensional solid model. This device is easy to use, even if you have never used 3D printer, but you can easily print all kinds of 3D models through 3D printer.

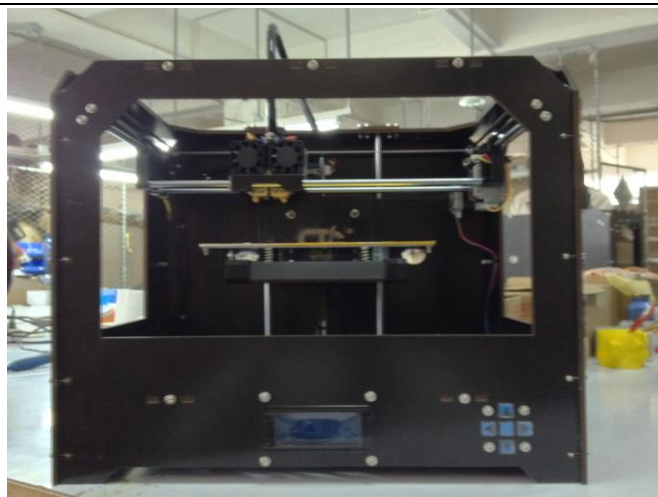
Appearance



(three Generation)



(one Generation)



(two Generation)

Product Specifications

The total volume of printer: 320*467*381mm

Package Size: 565*430*535mm

Weight (with packaging):15KG

Construction size: 225*145*150mm

Input voltage : 220V

Power Requirement: 210W

Construct platform temperature: about110 (adequate heating in winter, appropriate cooling in summer)

Nozzle extrusion flow rate is about 24cc / hr

Supported operating systems:Windows XP Windows7/8 (32 位/64 位)

Software: ReplicatorG 或 西通汉化版(Software is compatible with MakerWare)

Print materials: ABS , PLA

Material properties: 3D printing special ABS and PLA (only produced in our company)

Layer	precision	:			0.1mm-0.5mm
Positioning	Precision	:	XY	axis	0.011mm
Filament	Diameter	:	Z	axis	0.0025mm

Nozzle diameter: 0.4mm

Movement shaft speed: 30mm/s_100mm/s

Recommended nozzle movement speed: 35-40 mm/s

Input file types: stl , gcode

Recommended environment

Operation environment :Installed in a well-ventilated, dust-free area. Temperature: 15 ° C to 35 ° C. Humidity: 20-80% (non-condensing)
Storage environment : Temperature: 0 ° C to 40 ° C . Humidity: 10-80% (non-condensing). The existence of non-corrosive gases and cleaning applications.

3.Instructions

Prepare for printing

(1) Check whether the appearance of 3D printers outside the box bumps scratches and other defects.



Check the box edges and corners are squeezed or without deformation or rupture of the place.

(2) Open the box, after subtracting out the printer nozzle fixed tie, (tied in the front left side of the Z-axis X-axis Y-axis).



Use Water-nose pliers to cut straps fixed printhead.

(3) open the print head surface foam (Note: Try not to use face of the knife in order to avoid the above print head cable was hung before to hung up now)take the print head is mounted on the X-axis bracket, mounting orientation shown in rather the two screws.



(图一)

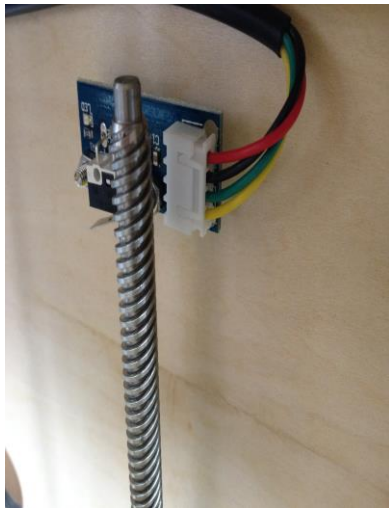


(图二)

(4)Taking out the tube hanging material feeding tube installed in the hole at the back of the printer, and put the printing supplies into the feeding tube hanging, then pull out the printing supplies, printing supplies section of the circle into the print head party hole (Note use the left print head is inserted left and use the right print head is inserted on the right)



- (5) Check Limit switches cable of the printer loose or fall off the surface.



(Z-axis)



(Y-axis)



(X-axis)

- (6) Check whether the voltage can reach the printer of voltage required (110 v or 220v, where the power supply is determined on the printer)

- (7) Taking out the SD card to read inside of the printer driver and installing the driver.

- (8) Turn on the printer and manipulate to control panel , make Z axis up to the top of the printer, check the printer nozzle parts and print platform's distance can meets the criteria (best distance test method: Put a sheet of A4 paper in the printing surface of the platform and control panel make it go to the top of the Z-axis, and then pull the A4 paper, printing paper can be pulled out, but with a little bit of strength, but the paper will not be scratched,) Note: The blue paper of print platform surface can not be teared. Otherwise it will affect the print quality

(9) You need to be ready for STL file format, after the software has been installed in the printer top can open the file, adjust the parameters, you can start printing

3.1 Preparations for computer

3.1.1 Installing Replicatorg drive software

(1) Taking out SD card to read inside of the printer driver, looking for 3dsetup folder

名称	修改日期	类型
3dsetup	2013/12/19 12:31	文件夹

(2) Open 3dsetup file folders and looking for software

名称	修改日期	类型	大小
ICO	2013/12/19 12:31	文件夹	
soft	2013/12/19 12:32	文件夹	
software	2012/3/30 5:03	应用程序	988 KB
software	2013/12/10 20:04	配置设置	5 KB

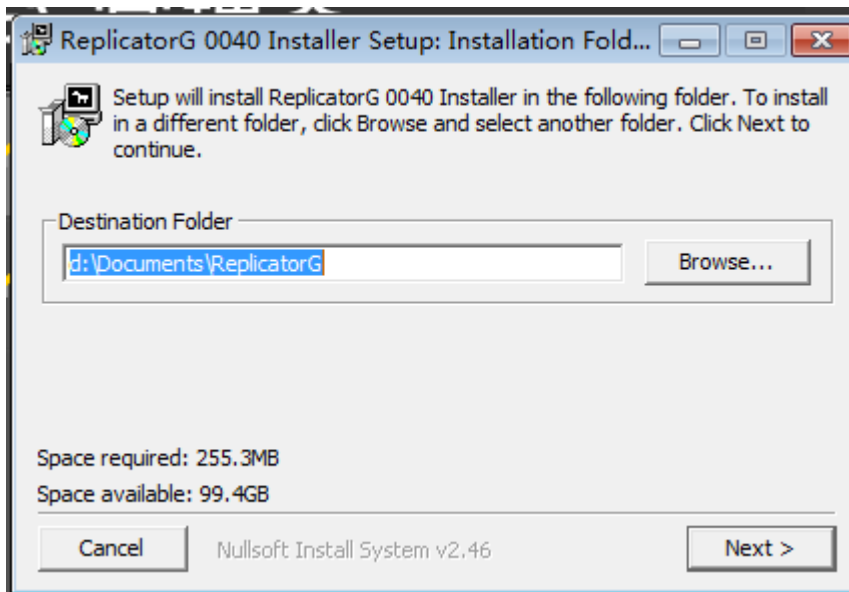
(3) Right-click the file to open the software into the software installation manager



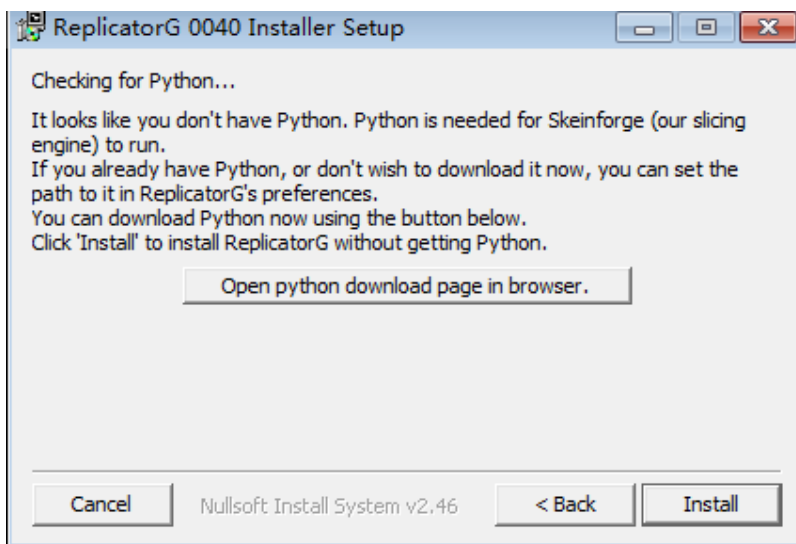
(4) Click Replicatorg software installation (you can choose to install English, Chinese also can choose)



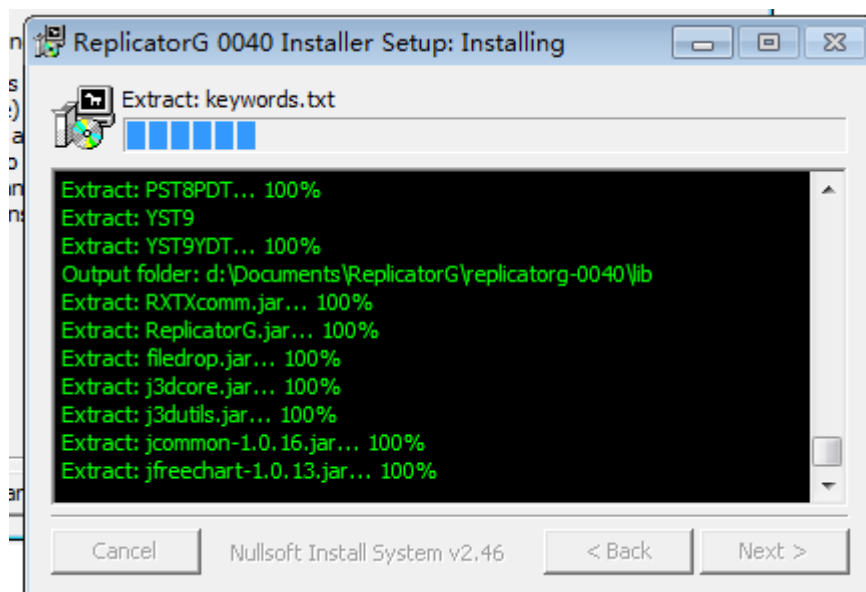
(5) Click ReplicatorG software automatically installs the icon will appear and then click the Next button.



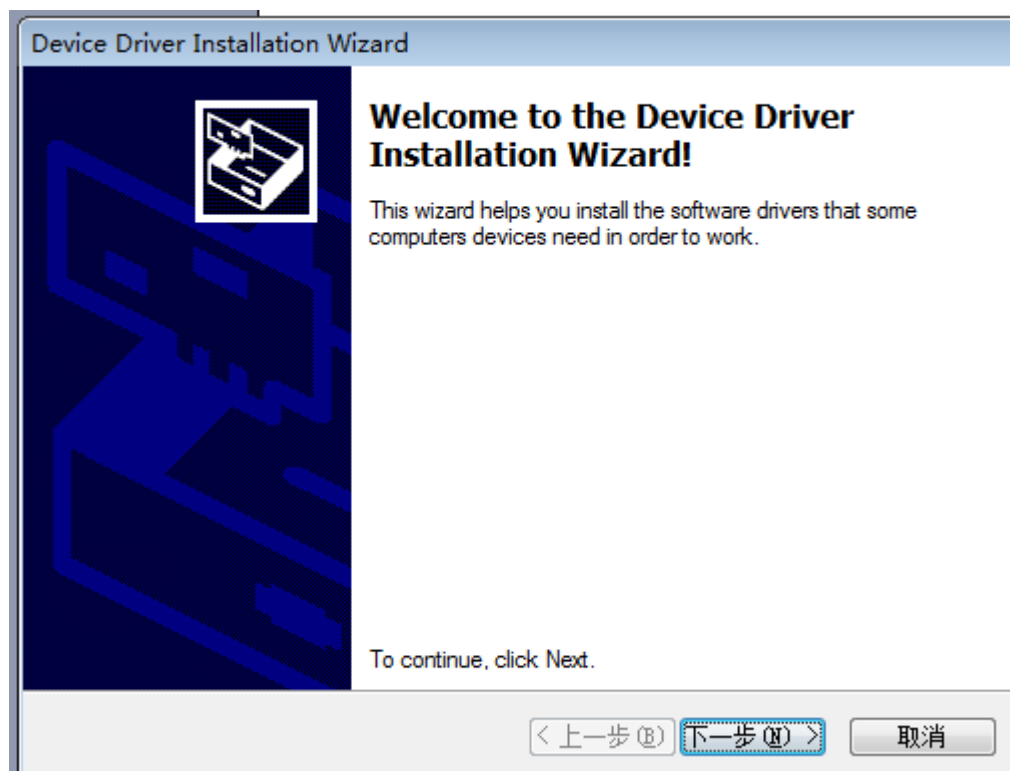
(6) Click Next will appear one icon, click on the Install button



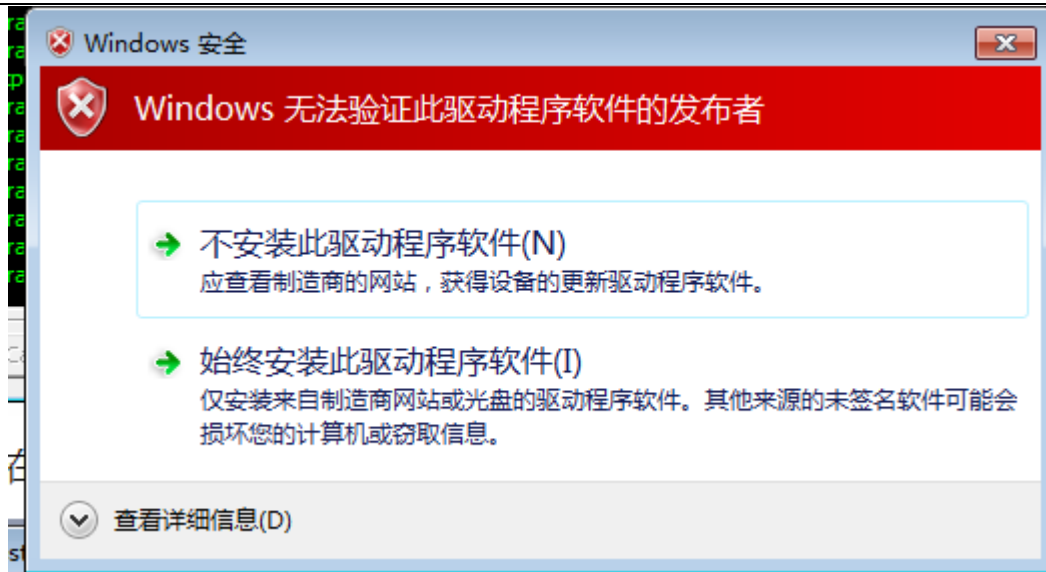
(7) Click the Install button will pop up a window, need to wait for moments



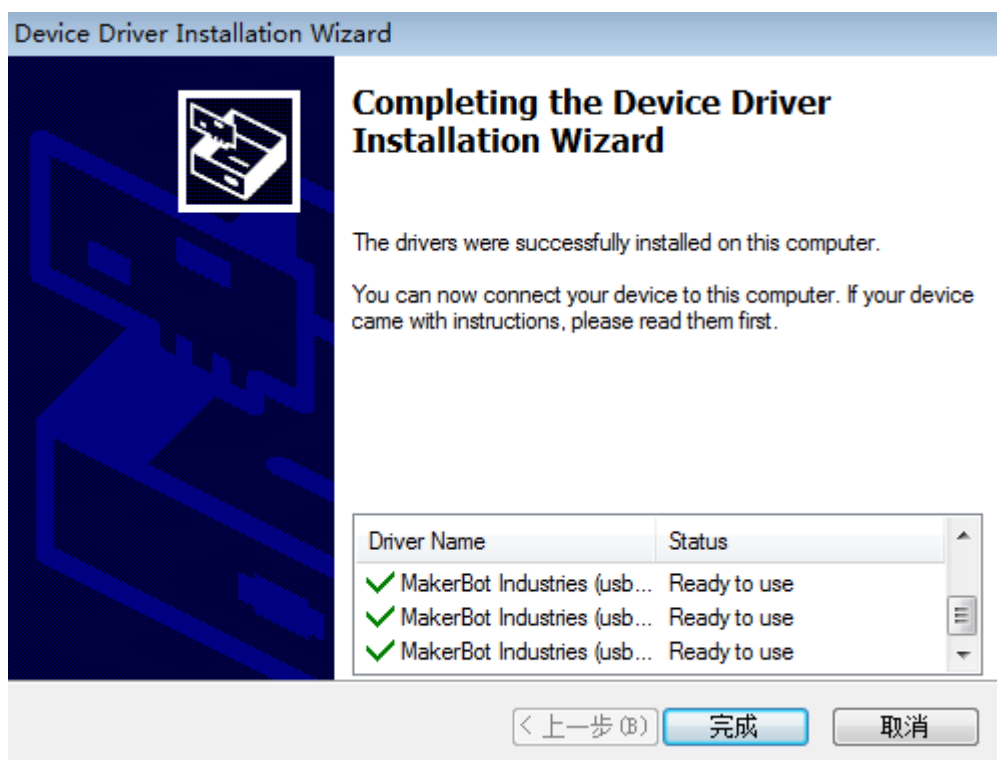
(8) After Click the Install button in the process the computer will pop up dialog box, please click Next



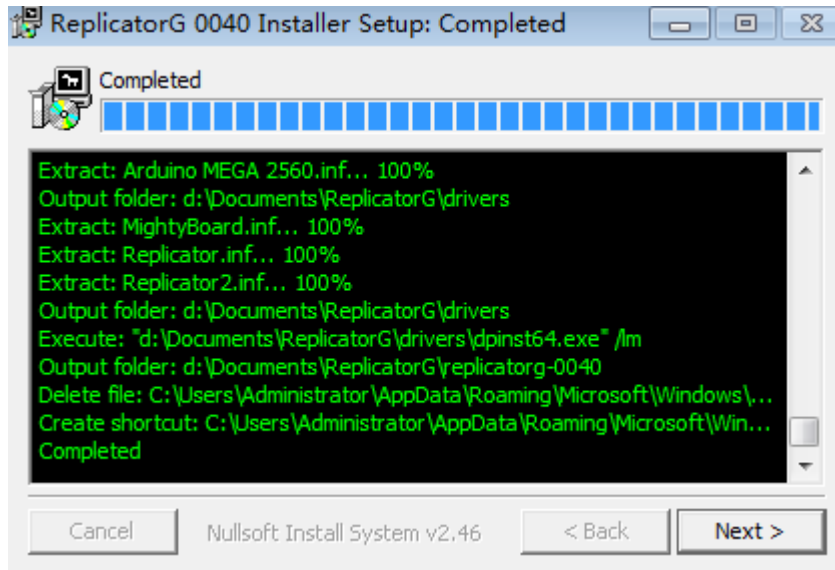
(9) After clicking Next the computer will appear fifth consecutive prompt, click "Install this driver software."



(10) Click Five times "Install this driver software" button to complete the installation , at the same time the computer will pop up dialog box to view the program was successful (query methods: View pop-up dialog box Driver Name, all check mark indicates that the software is installed successfully, if X number or ! number will be deemed not to have been successfully installed), after checking please click "Finish."

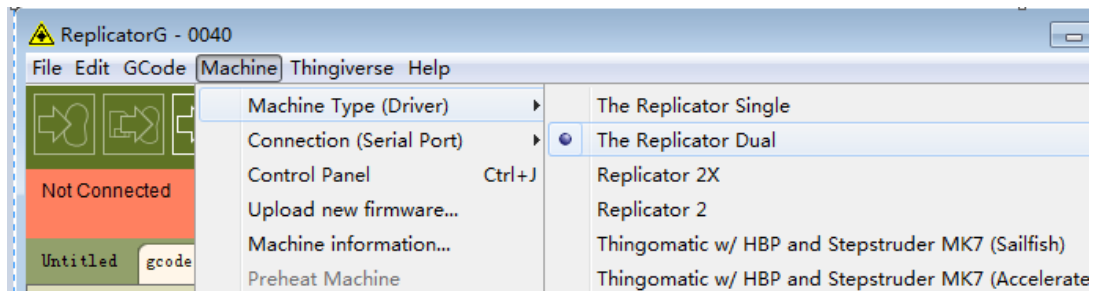


(11) Click Finish emperor of the page "Next" button to begin the lights, the left the mouse click "Next" button, the computer Replicatorg print software installation completed.

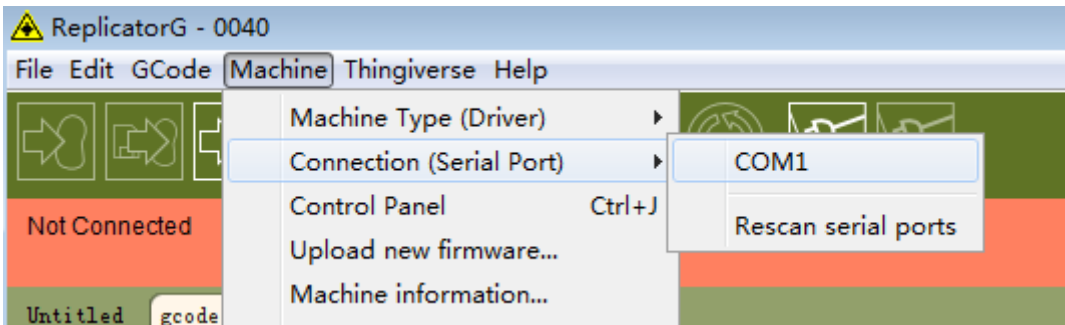


3.2.2 Software Functions

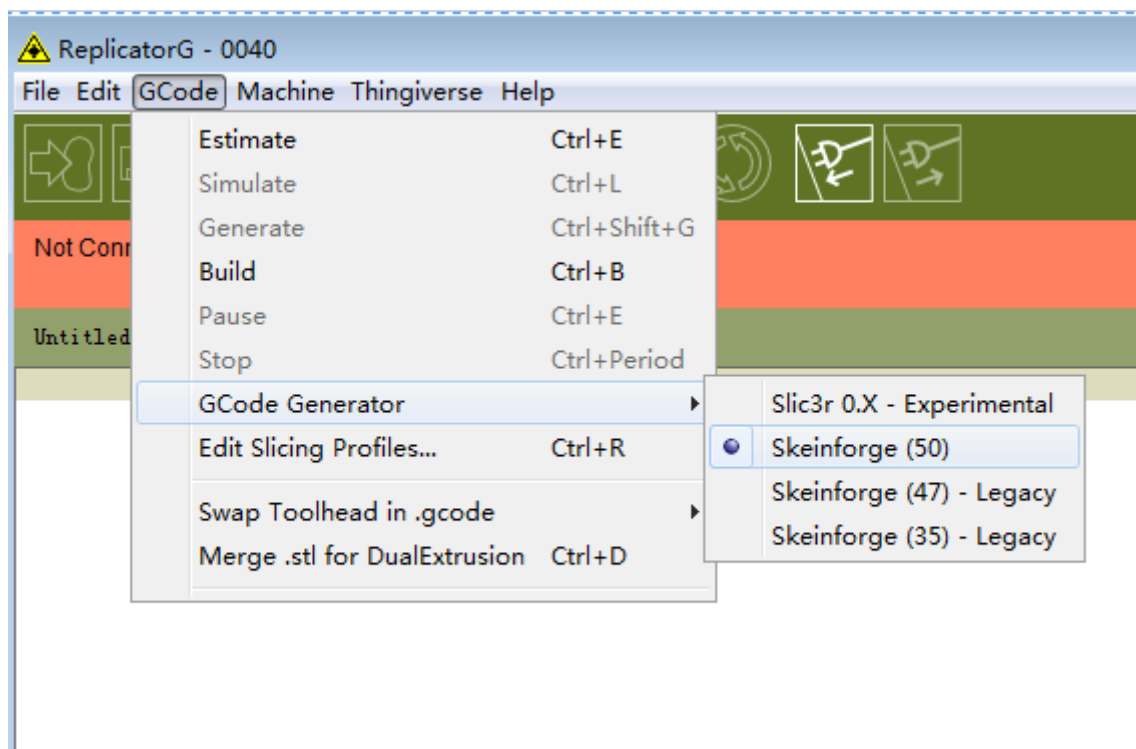
(1) Charging the machine, link USB, open replicator, (first double nozzle to choose The Replicator Dual machine, choose the first single nozzle The Replicator Single)



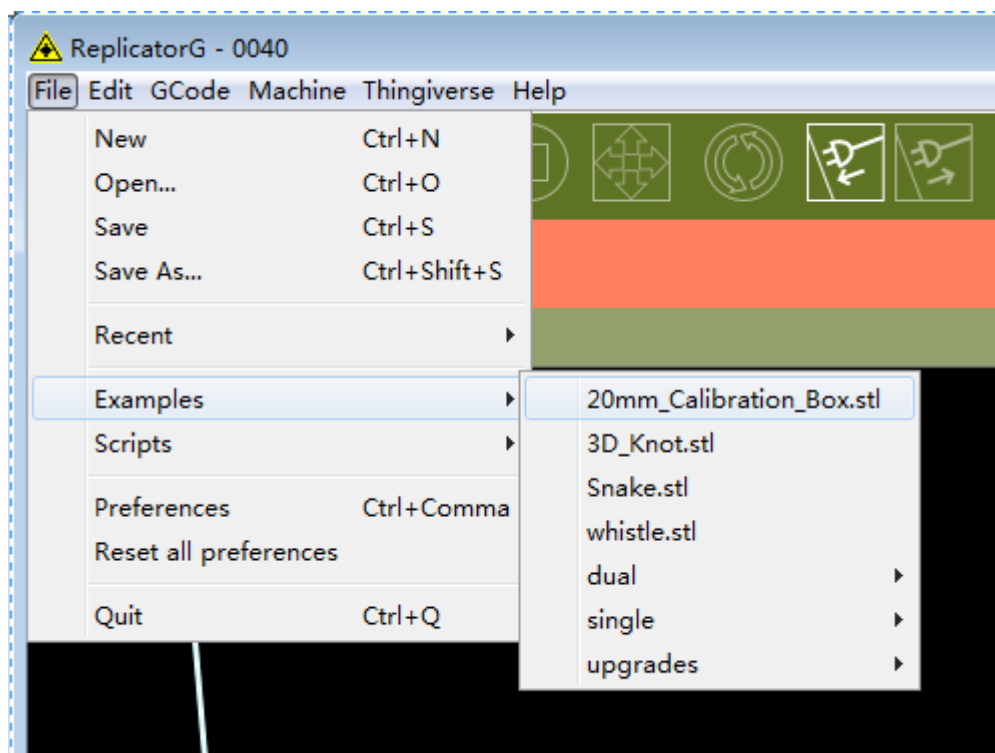
(2) Next is to select the correct serial port (Please note the serial number of the machine is often not com1)



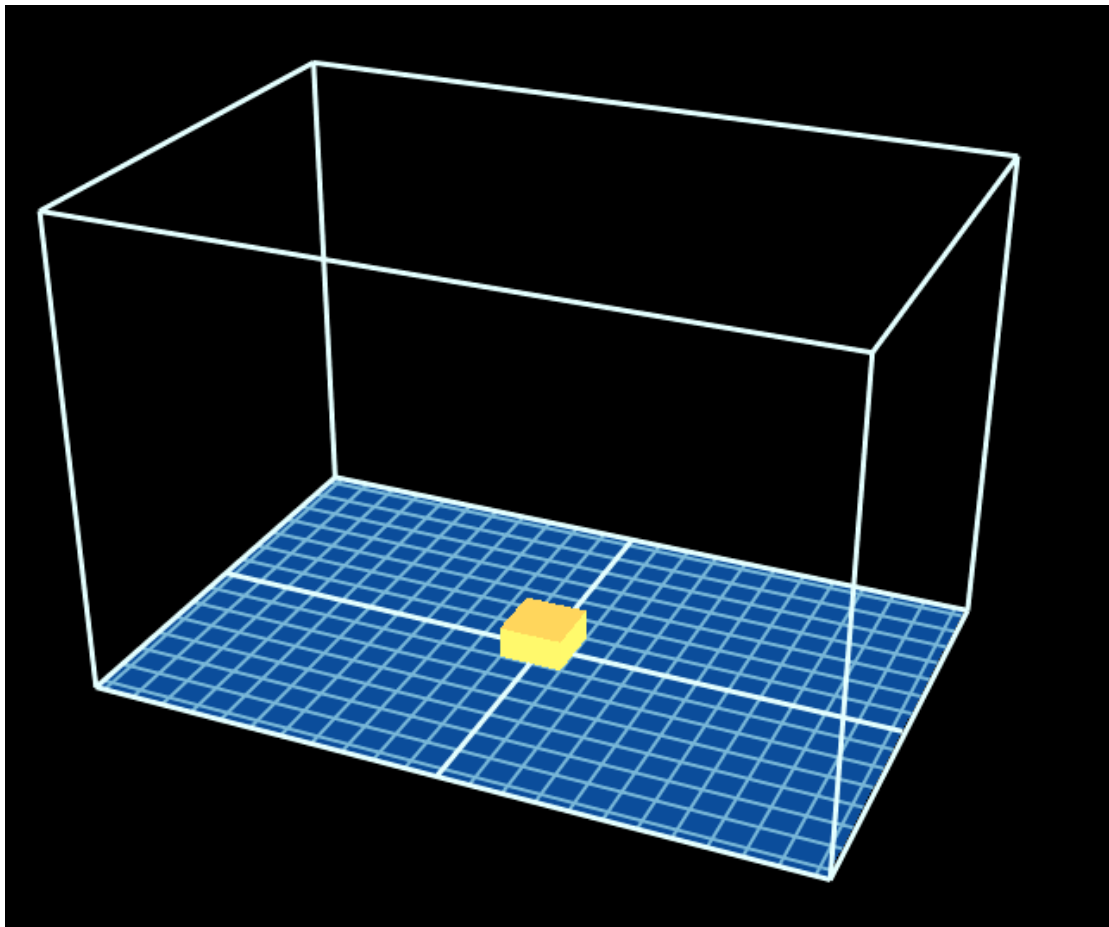
(3) Click online.



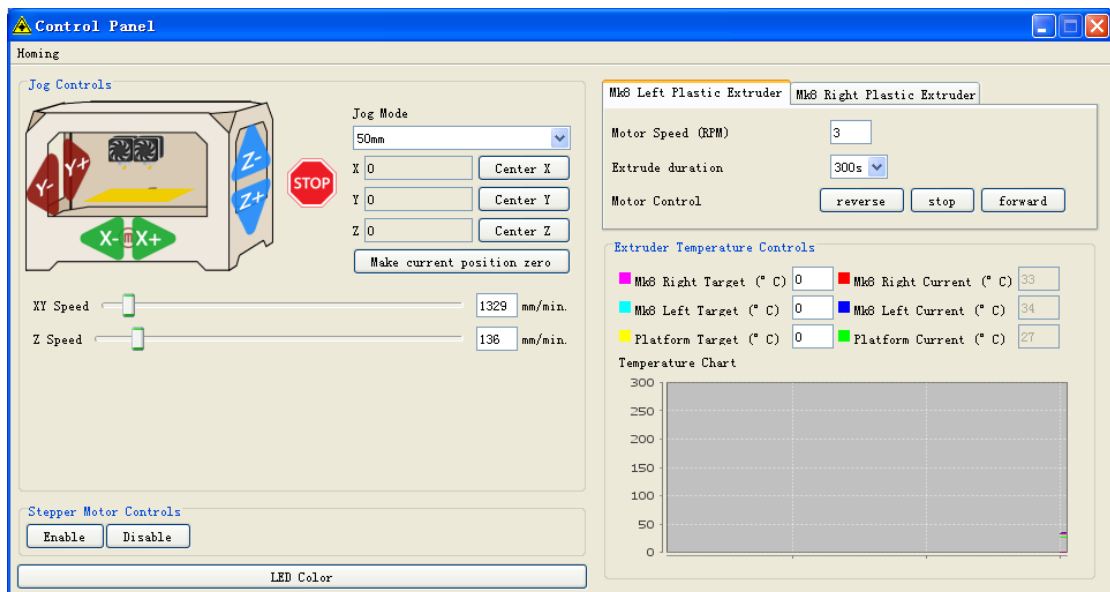
(4) Then select the file you want to print



Then there will be a pattern file:



(5) Open the Control Panel

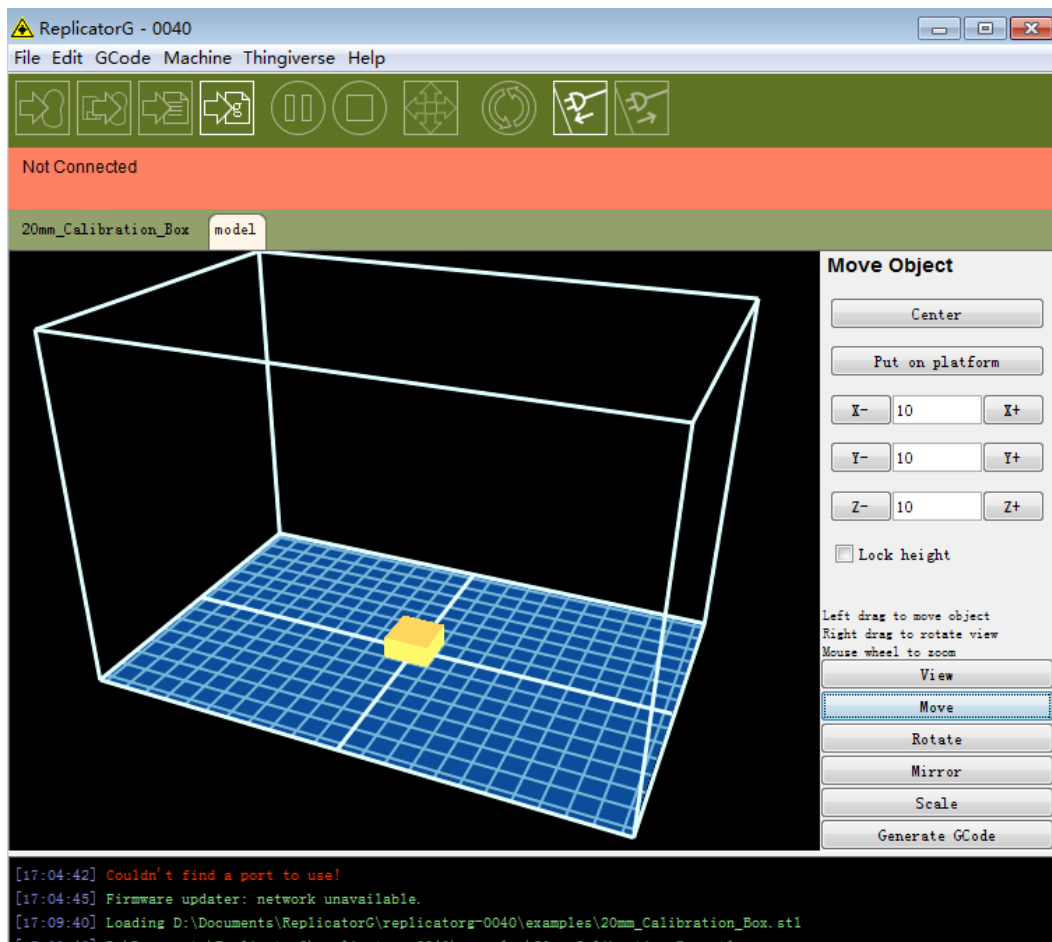


Set the nozzle temperature: Target Temperature box set a carriage.

Different machines due to differences in temperature conductivity, temperature difference is relatively large, its better to start from 215 degrees , try to use the wire. The temperature rises rapidly to reach 190 degrees, indicating a larger margin heating. If relatively slow, indicating a small heating. If the Szyborska appear, there may bot be enough temperature. If there are bubbles silk sound, temperature high. From low to high, according to the actual situation to set a suitable temperature. If you click on the reverse, the extrusion head motor reversal, I running out of the material is sent back . Cut flat new material, take them into the hole , click stop, then click forward, the motor is transferred out of the head, insert a little tight, the material is bite into the nozzle, until spinning. Please note, it will arrive at a predetermined value will continue to wait for the temperature down when he reaches the bottom surface of the print.

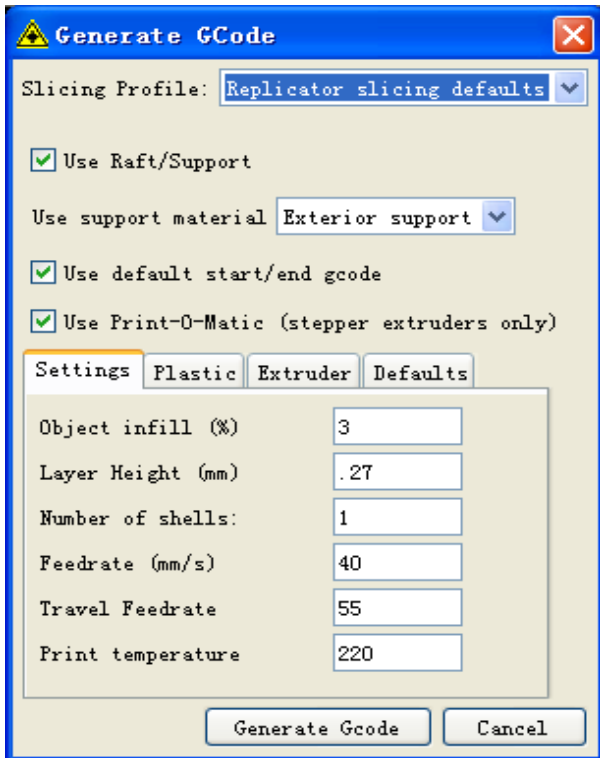
How to start printing :

The map is moved to the appropriate location, click the following button



Choose:

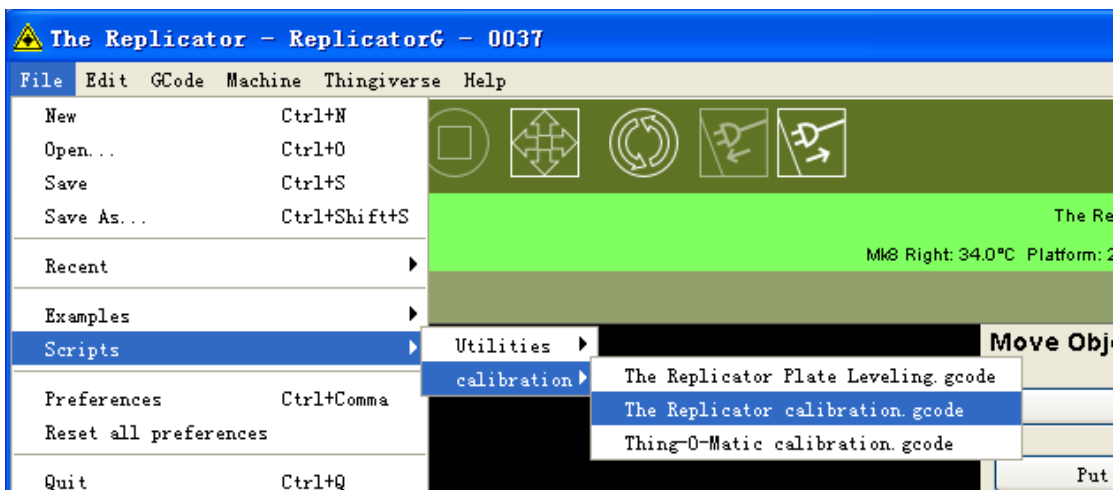
Please note that the above options, click Generate Gcode to be Gcode. After generating gcode, this time move the print head to the center position,



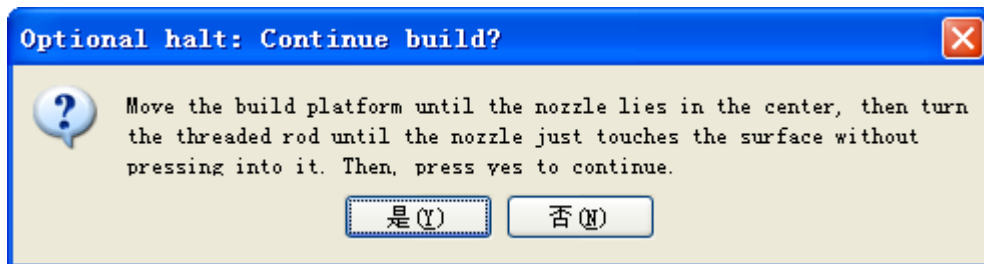
Can modify Feedrate (mm / s) to 20, Tralvel Feedrate 20 can make more accurate printing.

How to calibrate (normal calibration is not necessary):

Through the control panel  take the head to the platform。




After running tips




Click yes and then the machine can run automatically:



Click yes , and then disconnect , reconnect again the correction is complete.


Gcode print:

Click , printing start.

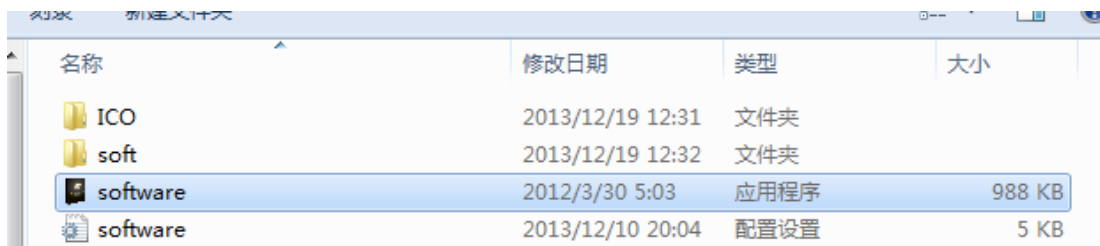
Please note, it will wait until the temperature reaches a predetermined value will continue down to reach the bottom surface of the 10mm print at the time.

3.2.3 Makerware install driver software

(1) Taking out SD card to read inside of the printer driver, looking for 3dsetup folder

名称	修改日期	类型
 3dsetup	2013/12/19 12:31	文件夹

(2) Open 3dsetup file folders looking for software



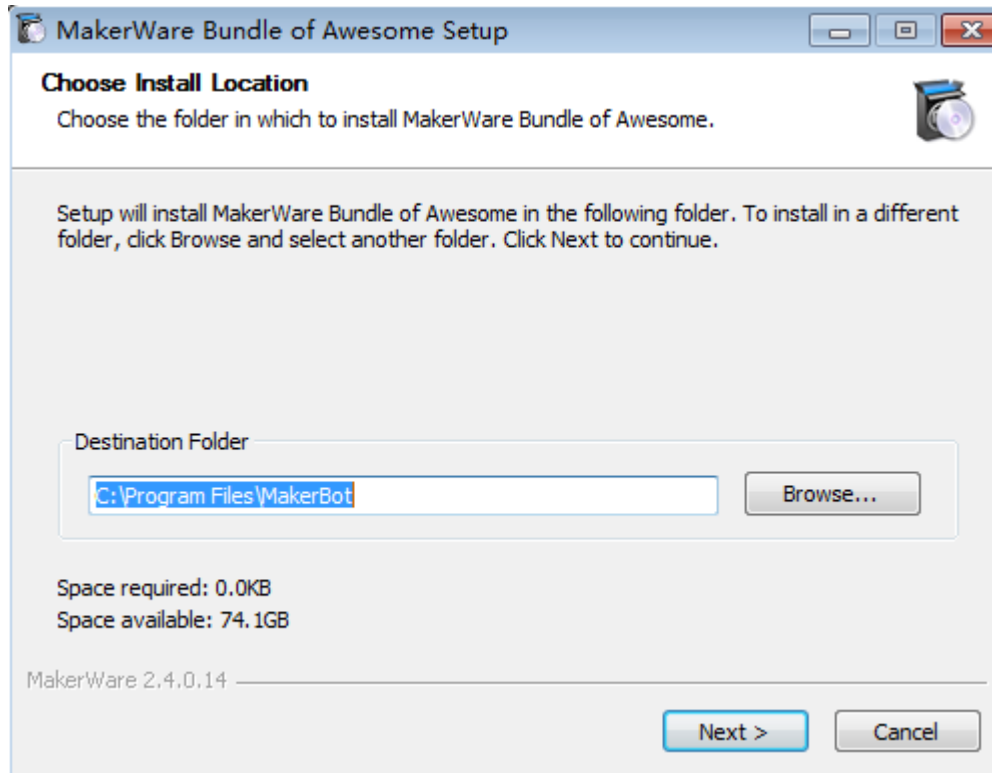
(3) Right-click the file to open the software into the software installation manager



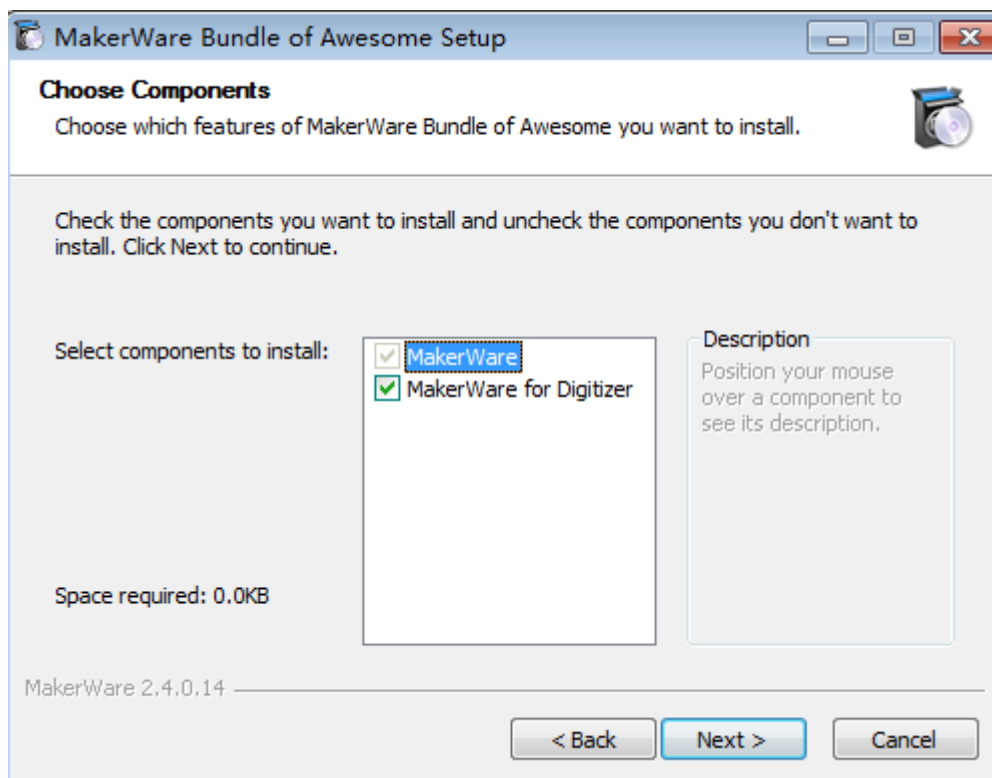
(4) Click Makerware software drivers will be used by different computer systems, corresponding to find your own computer systems for you own printer driver, then click Automatic installation



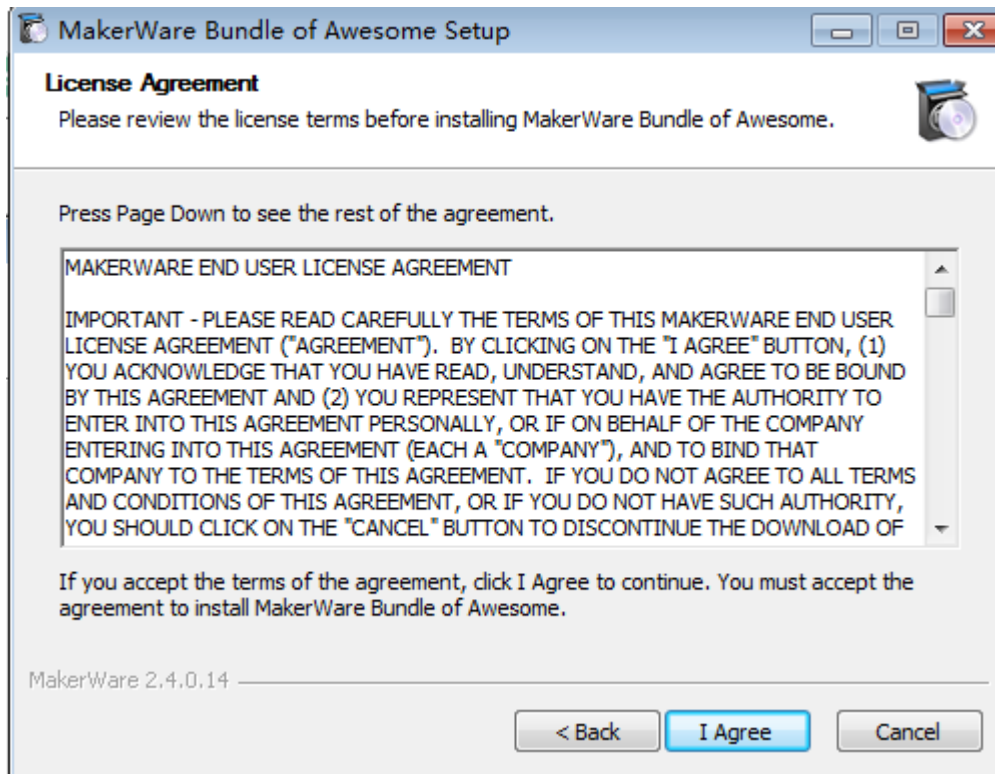
(5) Click Makerware software automatically installs will appear the icon and click "Next" button.



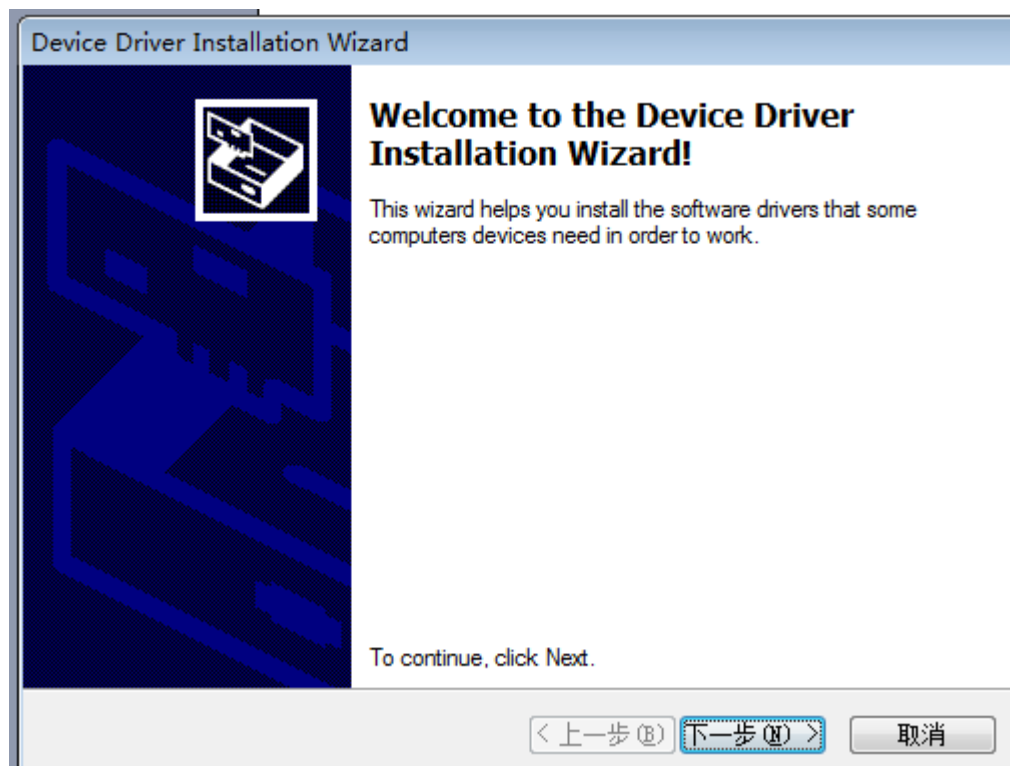
(6) Then continue to click next button



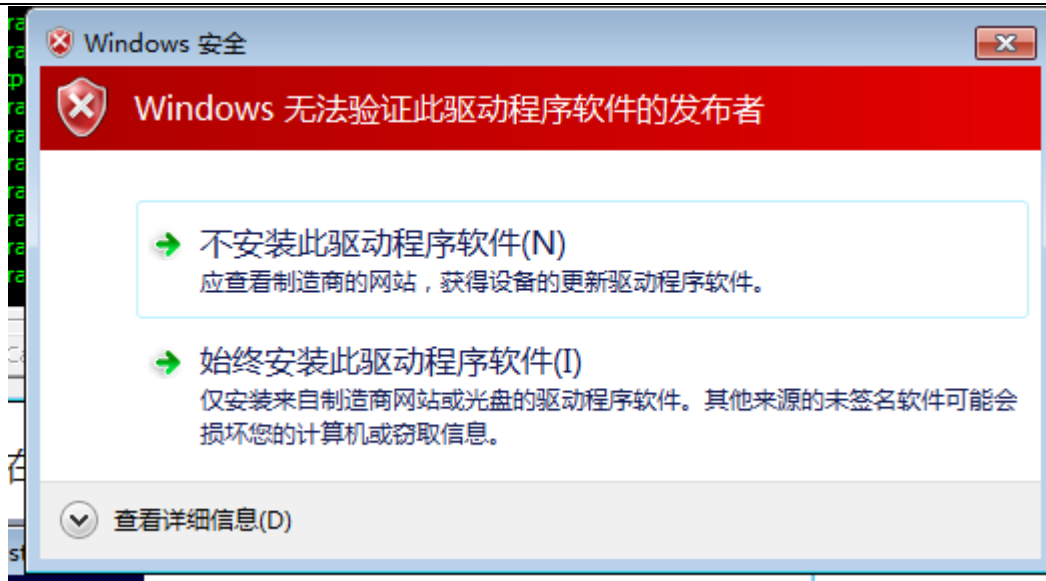
(7) And click "I Agree" button



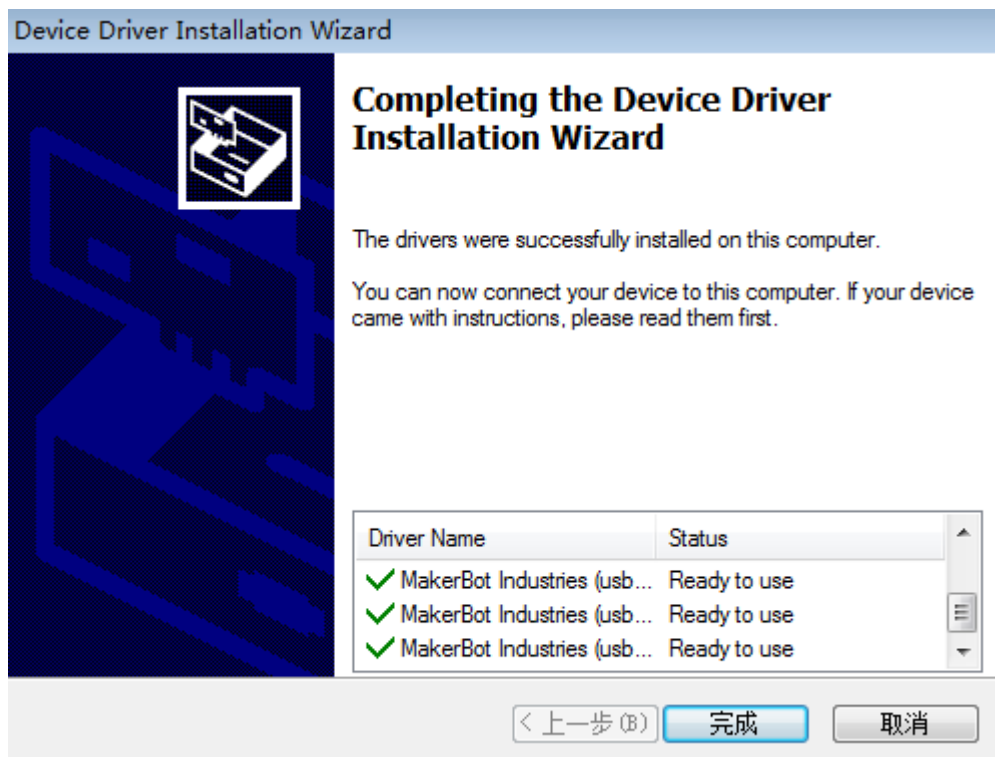
(8) After Click "I Agree" will pop up dialog box, please click next



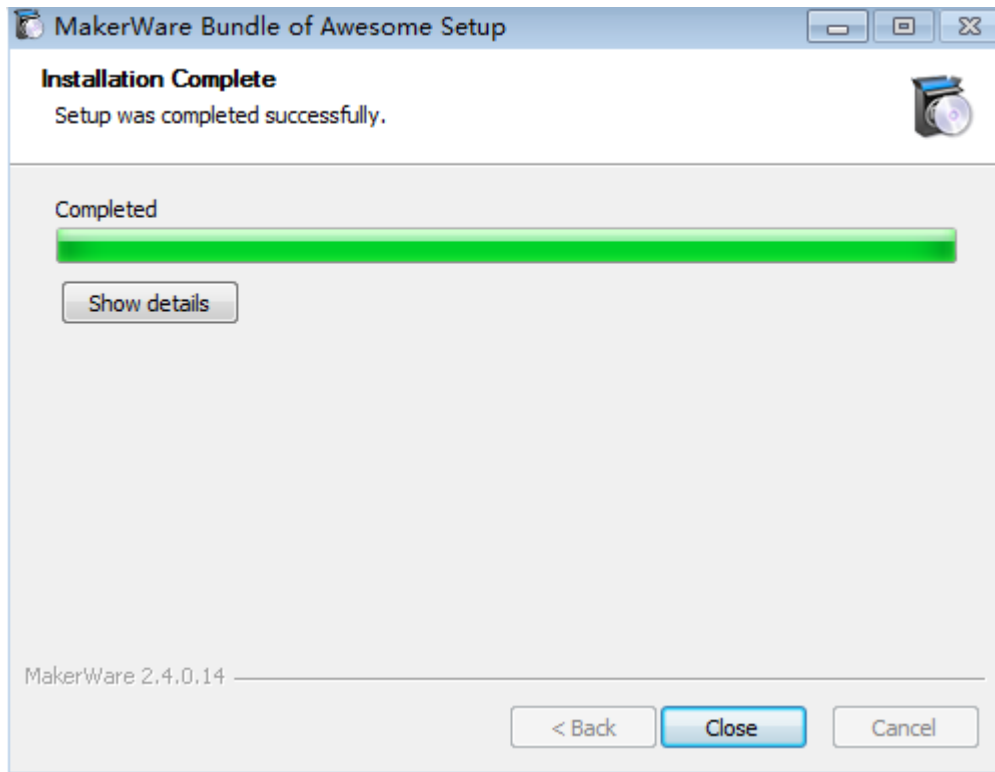
(9) Click Next to finish after the computer will appear five consecutive prompts, click "Install this driver software."



(10) Click Five "Install this driver software" button to complete the installation procedure basically, at the same time the computer will pop up dialog box to view the program is both pro-detailed installation was successful (query methods: View pop-up dialog box Driver Nane, all check mark indicates that the software is installed successfully, if X number or ! number will be deemed not to have been successfully installed), after the inquiry is completed click "Finish."

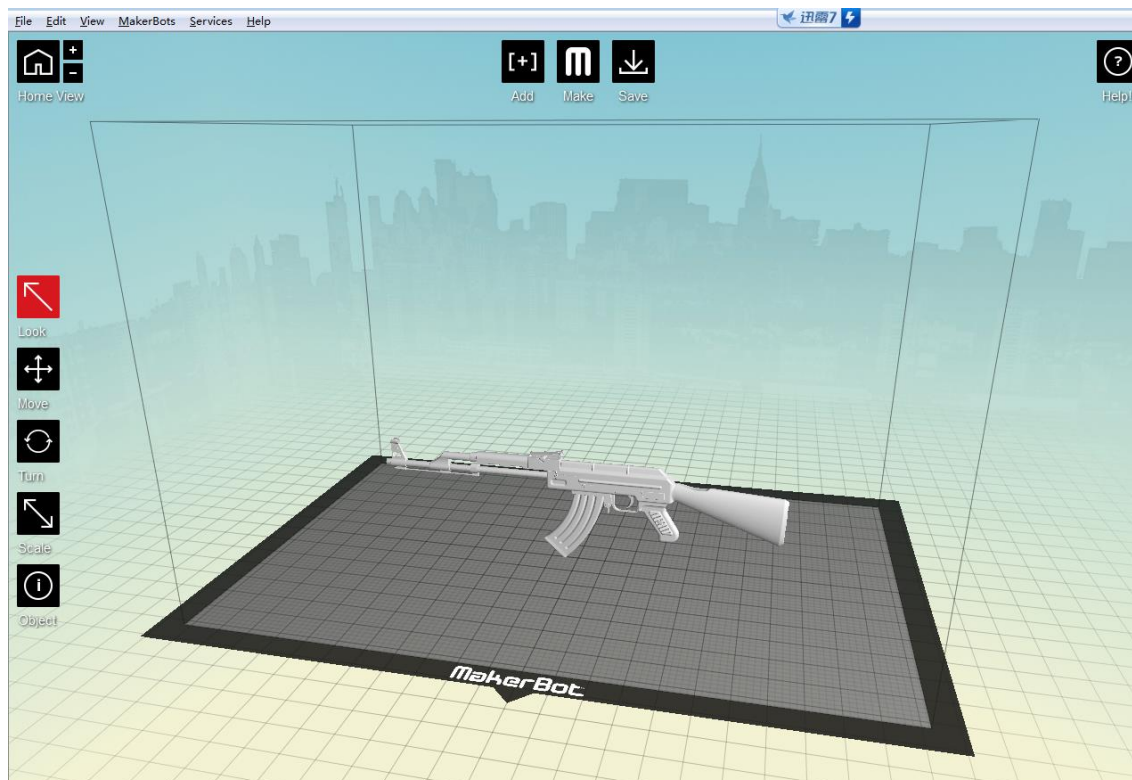


(11) Click "Close" button to finish the page and start the lights, the mouse left click "Close" button, the computer "Makerware" print software installation completed.



3.2.4 Software Function

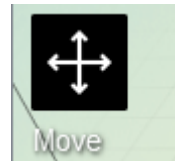
(1) Makerware function interface.



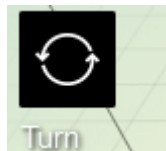
(2) Function Keys:



文件查看工具



文件位置摆放工具



文件旋转工具



文件比例调节工具



左右头选工具项



添加文件工具



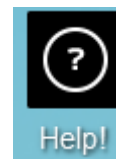
文件切片生成工具



文件保存工具



视图放大缩小工具

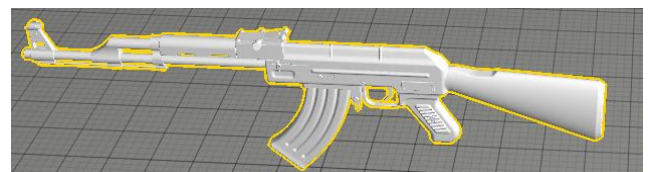


软件功能介绍帮助


(Note: All tools must be using the mouse left-click the file to make the frame change the color can be used normally, the following examples, the correct figure two pictures)



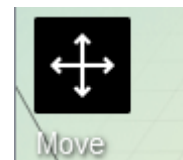
图一 (Click to open but not selected)



图一 (Click to open and selected)

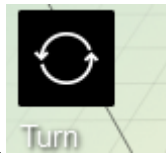
(3) Slice generation parameters, after using the tool  to open the STL file

to put the file place above the level of the panel.after a good tool



to adjust

the angle of the best print, exceed the maximum print size of a file can not be put



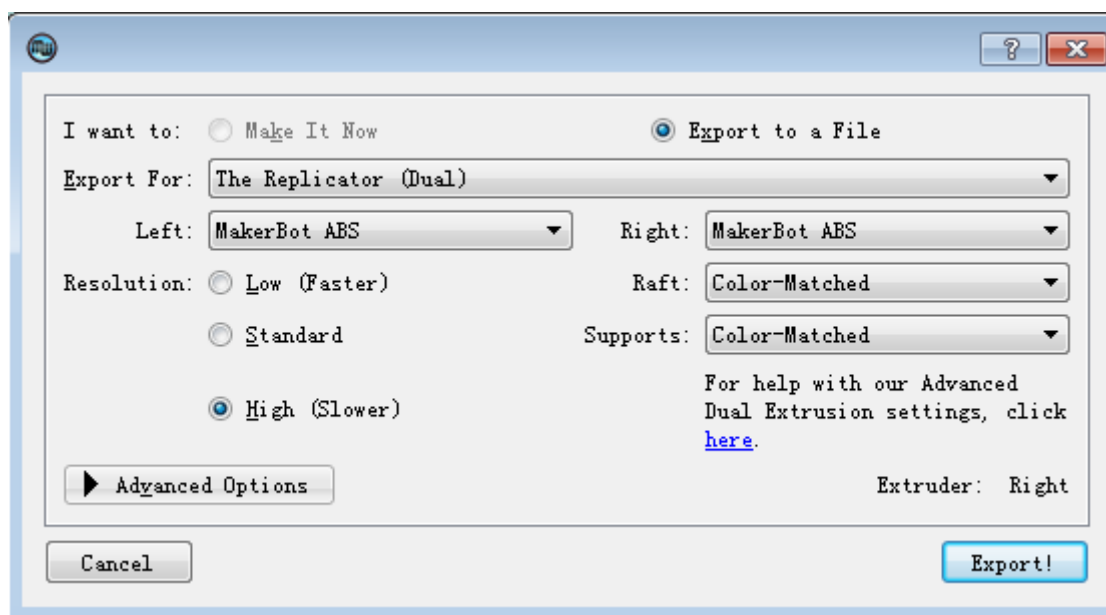
through the tool Turn when proportionally reduced or enlarged in the above



selection tool Scale to select a good operation to use the left side of your head to print it or to the right of the print head to print, after selecting the parameters click on the



Tools Object will be set out in detail, reference pictures,



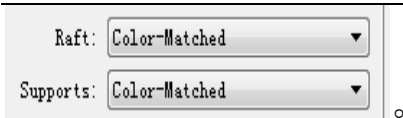
1 This interface is an option you must select Export for “The Replicator (Dual)” printer model.

Below Left and Right to select different options depending on the materials you use.



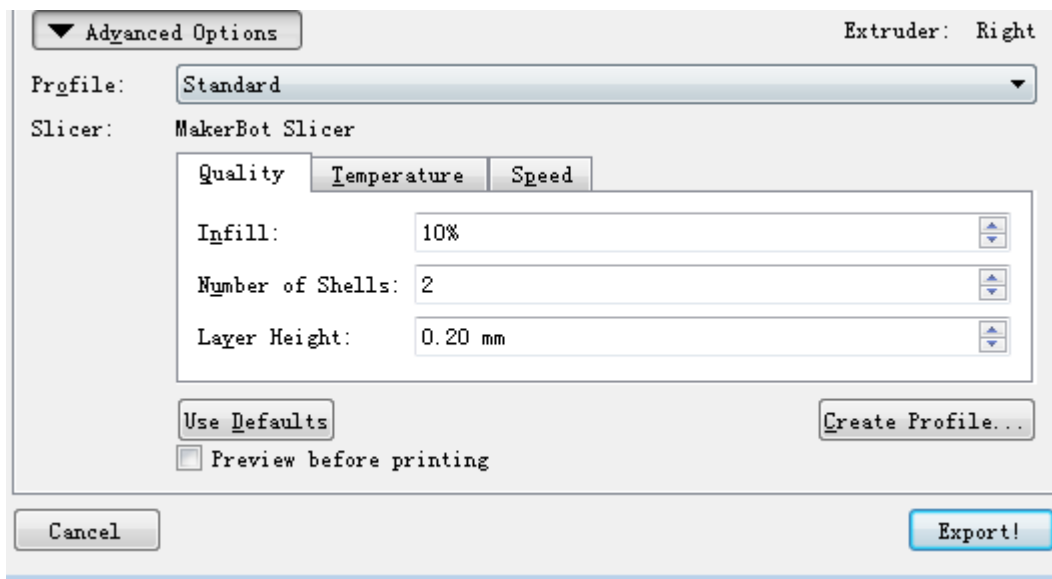
Raft tool is allow to use the printer before printing table bearing material backing. Raft:

Tools are being added to the vacant graphic material automatically by the software in order to make printing can success to finish



Resolution (Resolution:) There are three options under Tools, you can select a specific print precision according to individual requirements.
 :: ☐ Low (Faster) low
☐ Standard standard ☐ High (Slower) high. The official proposal to standard print.

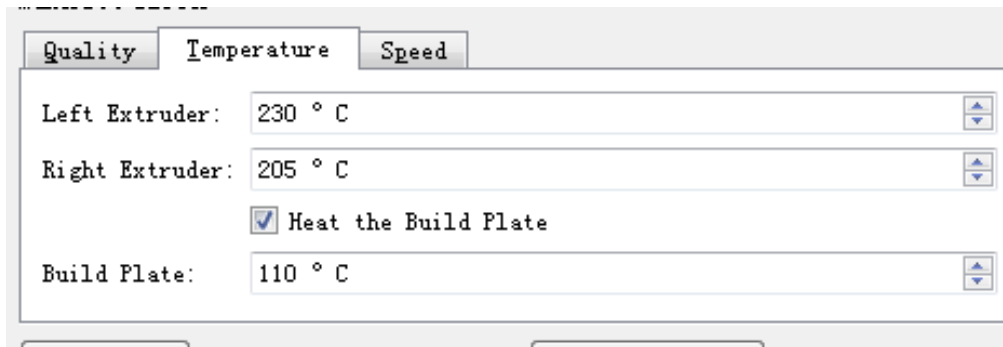
Click **Advanced options** into the print parameter settings



Profile: This tool behind the corresponding has three options, rough, standard ,fine, according to the individual requirements , the official suggested standard print .

Slicer: has three option, is **Quality** **Temperature** and **Speed** .

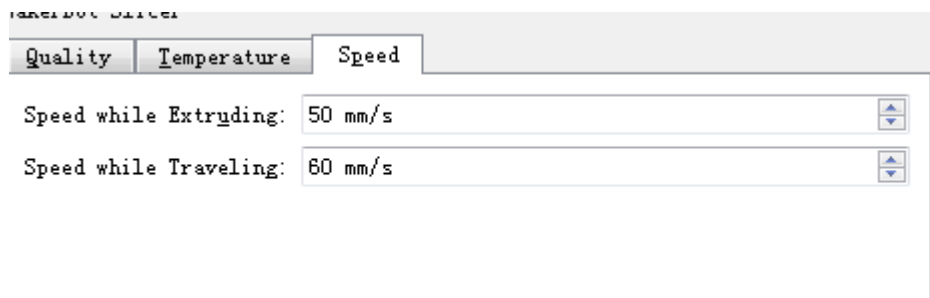
Quality (**Quality**) For detailed precision parameter, **Infill:** To fill rate, **Number of Shells:** thickness **Layer Height:** For accuracy. Each option can be adjusted according to individual requirements, the official suggested parameters as below , Temperature(**Temperature**)Temperature Options.



Left Extruder: Right Extruder: Build Plate: Depending on the material of your choice to select a different temperature

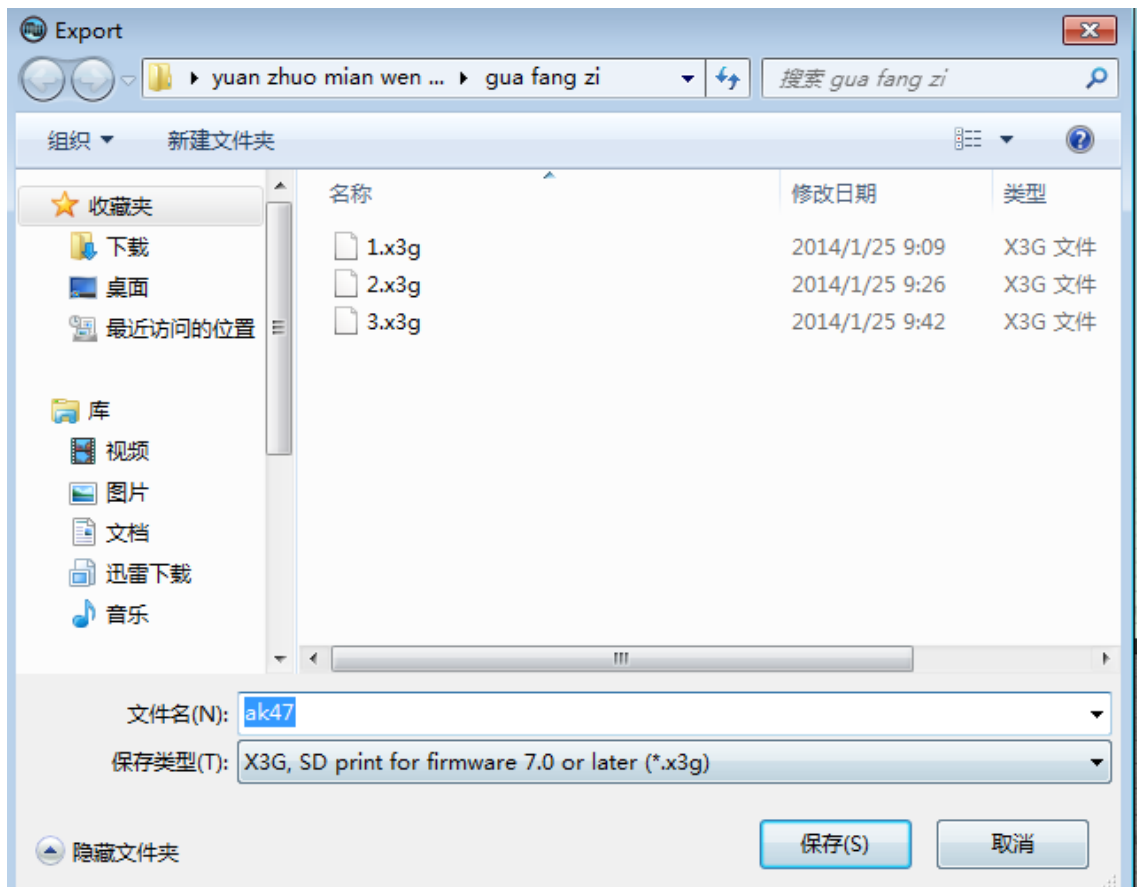
The official recommendation: ABS material Extruder 220-230°C plate 110°C
PLA material Extruder 205-210 °C plate 40-60°C

Speed (Speed) The maximum speed options do not exceed 80

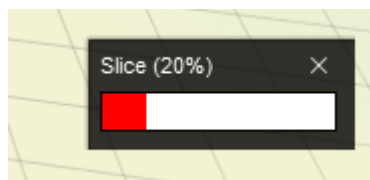


The official recommendation rate: ABS Recommendation rate above 30-35 below 40-45
PLA Recommendation rate above 50-55 below 55-60

After finishing above settings and Click **Export!** will pop up dialog box button, Please select a file address to save the file



After pressing the save key the lower right corner of software will appear the



progress bar , After waiting for the progress bar disappears in place to save the file with a copy of the SD card has been generated X3G format files directly plug the printer starts select Print.

LCD screen function keys comment

"▲": used to move the cursor up; "▶": for the cursor to the right; "▼": for cursor down; "◀": for the cursor to the left and return to the previous menu; "M" (middle button): used to confirm the project, selecting and setting.

Menu Item Function

Menu Options	Functions	Descriptions
--------------	-----------	--------------

Build from SD		SD card printing	从 SD 卡选择. s3g 或. x3g 文件进行打印
Preheat		preheating	Start Preheat
Utilities		Instrument	Enter aids submenu
	Monitor Mode	Monitoring Mode	Go into the control interface, monitor the temperature of the nozzle and the bottom
	Change Filament	Silk material replacement	Silk material to replace the on-screen prompts
	Lever Build Plate	Print platform leveling	Print platform leveling screen prompts
	Home Axes	Return home	Nozzle runs to X, Y, Z axis origin position
	Jog mode	Jog mode	Jog control X, Y, Z axis motor
	Run Startup Script	Run Wizard	Run your first boot wizard
	Enable Steppers	Enable motor	Enable / disable all motor
	Blink LEDs	LED switch	LED switch (not used)
	Exit menu	Return to main menu	Return to main menu

Info and Settings		Parameters and settings	Parameters and settings
	Bot Statistics	Device Information	View equipment uptime statistics
	General Settings	General parameter settings	General parameter settings
	Preheat Settings	Preheat parameter settings	Preheat parameter settings
	Version Number	Version number	Version number
	Restore Default	Restore Default Settings	Restore Default Settings
	Exit menu	Return to main menu	Return to main menu

Main Menu

After power on the machine, display the main menu interface, in Figure 1 shows You can use "▲" and "▼" keys to move the cursor, press the "M" key to enter the selected item.

Figure 1 Main Menu



Print with SD card

Select "Build from SD" SD card into the file browser (Figure 2), through the "▲" and "▼" keys to move the cursor, press the "M" button to select the file you want to print to start printing.

Figure2 SD card file selection




 Select "Preheat" enters warm-up operation (Figure 3), by "▲" and "▼" keys to move the cursor to select the nozzle or bottom, press "M" button to turn on / off the warm-up operation, and finally move the cursor to "Start Preheat !", press the "M" button, the machine starts to warm up.

Figure 3 Start Preheat



Accessibility submenu

Select "Utilities" into the auxiliary tool submenu (Figure 4, Figure 5), by "▲" and "▼" keys to move the cursor to select the tool item, press "M" button to confirm the selection.

Figure 4 Accessibility submenu 1



 Figure 5 Accessibility submenu 2



监控模式

Select "Monitor Mode" to enter the monitoring interface (Figure 6), monitor the current temperature sprinklers and platforms.

Figure 6 Monitoring interface



Silk material replacement

Select "Change Filament" were silk material replacement, wire feed nozzle exit on-screen prompts, and then insert the new silk material.

Print platform adjustment

Select "Lever Build Plate" print platform leveling, follow the prompts screen.

Home Axes

Select "Home Axes" control nozzle returns mechanical origin coordinates.

Jog mode

Select "Jog mode" to enter the jog control interface (Figure 7), through the "◀" and "▶" button to select the X, Y, Z axis, "▲" and "▼" keys to control the direction of the back and forth movement of the selected axis.

Figure 7 Jog Control Interface



Run Wizard

Select "Run Startup Stript", using the printer wizard runs automatically when the first boot.

Enable motor

Select "Enable Steppers", the motor can make the three axes

Parameters and settings submenu

Select "Info and Settings" to enter the parameters and settings submenu (Figure 8), through the "▲" and "▼" keys to move the cursor to select the Tools item, press the "M" button to confirm the selection.

Figure 8 Parameters and settings submenu



Device Information

Select "Bot Statistics" information into the device interface (Figure 9), check the total schedule of the printer and the last print schedule

Figure 9 Device Information Interface



🔧 常规参数设置

Select "General Settings" to enter the general parameters setting interface (Figure 10), through the "▲" and "▼" keys to move the cursor to select the parameters, press the "M" key to modify the parameters.

Figure 10 General parameter setting interface



Preheat parameter settings

Select "Preheat Settings" to enter the warm-up parameter setting interface (Figure 11), through the "▲" and "▼" keys to move the cursor to select the parameters, press the "M" key to modify the parameters.

Figure 11 Preheat Settings



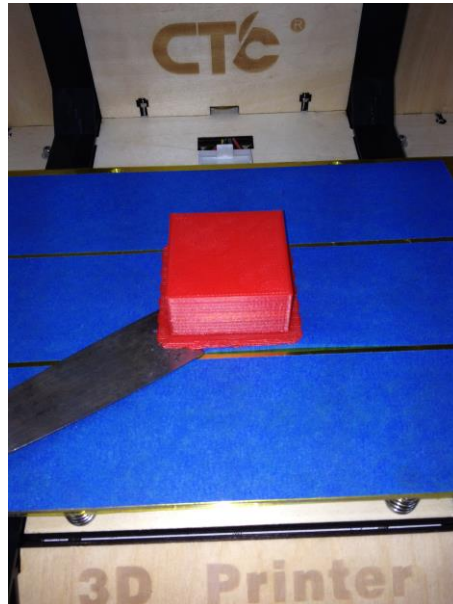
Version number

Select “Version Number”, You can view the operation of the software version number .

Restore Default Settings

Select “Restore Default”, You can restore the factory parameter settings.

4. Take the model

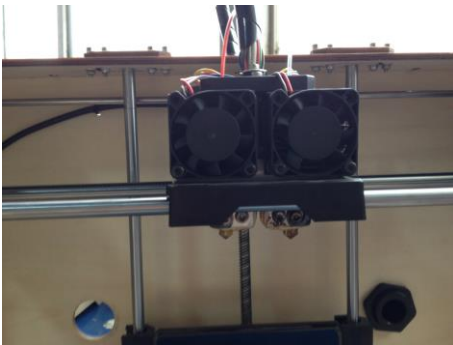


Use the rasp to tilt the bottom of the object gently, so that the printed article is heated slowly to leave the platform, so as not to be moved by hand directly under force.

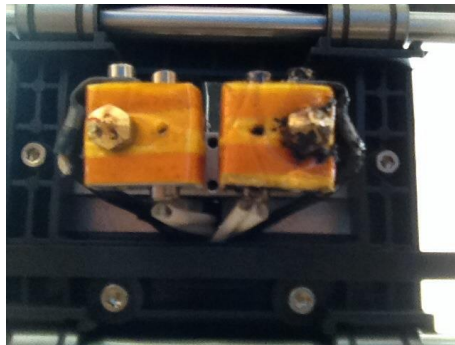
5. Maintenance

5.1 Clean the printhead

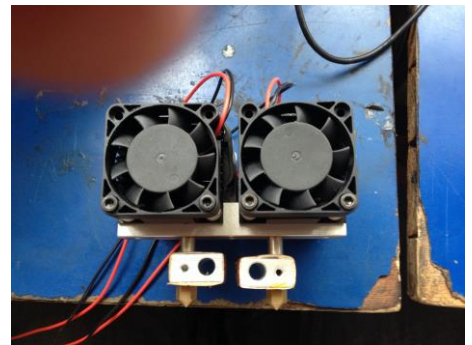
You should clean the print head after using a period of time , print head appearance in Figure 1, In the print head you can see two white screws at the bottom of the printer. in Figure 2, After taking out the two screws and then put out print head . in Figure 3. Remove the print head in front of the fan underneath the two black screws Hexagon 2.5, the fan and heatsink removed. In Figure 4. After a piece of aluminum surface and remove the fan and cooling motor, shown in Figure 5 after remove the fan stepper motor , this is the top of the print head plastic extrusion gear. as Figure 6. disassembled to clean plastic extrusion gear, the gear tooth squeeze glue to clean the inside of the plastic can install and use.



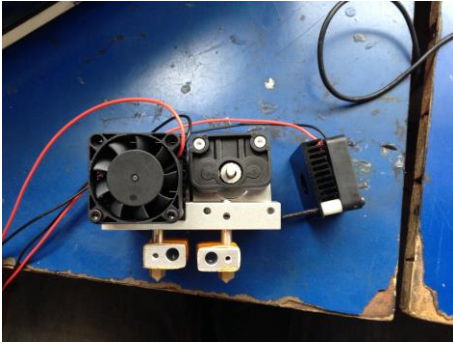
(Figure1)



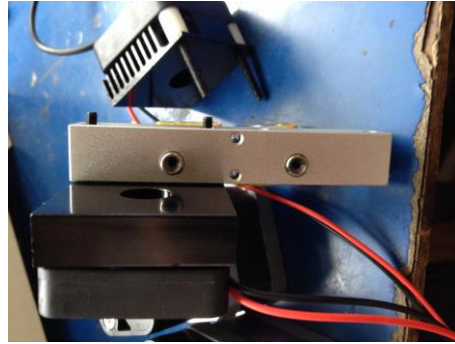
(Figure2)



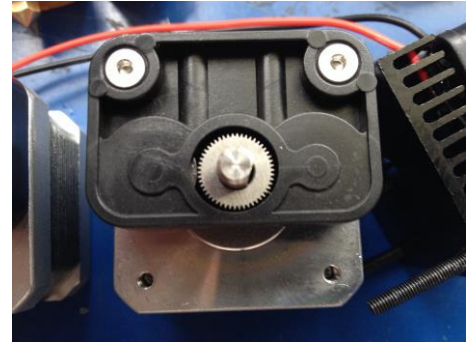
(Figure3)



(Figure 4)



(Figure 5)



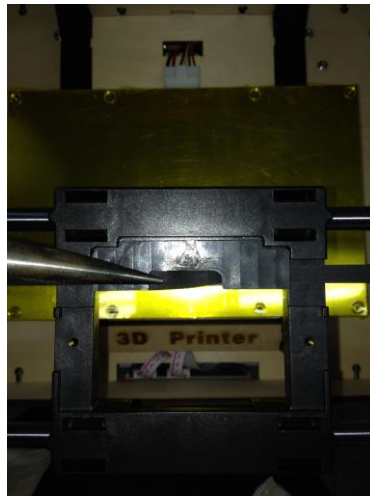
(Figure 6)

5.2 Tighten belts

NOTE: 1. To tighten the belt and pulley belt seamless contact.

2. Need Y axis around pulley trying the same power

3. X-axis and Y-axis must be at right angles.



(Y-axis to the right belt)

(X-axis belt)

(Y-axis on the

left belt)

5.3 Screw axis and Maintenance

Use a good lubricant, drawing the lubricant on XYZ bearing steel, coated a small amount of lubricating oil to the surface.



(Figure1)



(Figure2)



(Figure3)



(Figure 4)

(Figure 5)

6. Troubleshooting

1 print offset, or after tightening the screws is offset, check the printer pulleys, check the pulley whether in a parallel line.

2 temperature does not display 0-1024 properly, check the thermocouple connection, the connection is normal, you need to replace the thermocouple.

3 If the temperature is NA, check the thermocouple connection, the connection is normal, you need to replace the thermocouple.

4 If X-axis move is not normal, and chattering, X-axis motor line may has a problem and need to replace the X-axis motor lines.

5 LCD blue screen does not appear, suddenly restart after boot, the motor does not stop after touching limit switch, prosecutors, Check the sensor cable, sensor cable is connected properly, the sensor wire may have a problem

6 if the fan cannot run, make sure the temperature is above 50 degrees and use the hand turn aside to check next turn. if still cannot run, reconnect with a screwdriver about Interface , or use battery test to determine there is a problem, then need to replace the fan.

7 if motor cannot run, replace the motor driver board

7. Common Problems and Solutions

1. Kasi - too thick wire - split nozzle
2. slip - too thin wire - minus some silk material
3. nozzle blocking - blocking wire heating pipes - heating element apart, heated to 220, remove the silk material with tweezers
4. temperature anomaly - thermocouple damage - replace thermocouple
5. Print dislocation - screw loose - Check the screws and tighten the screws
6. Print sample Alice - floor height is too high - floor height adjustment
7. G code can not be turned - models did not choose the number of nozzles, the storage path incorrect - Select and change

8. silk material stuck in the top of the nozzle – nozzle support material is pulled – Re-set parameters
9. no wire – model has problem – turn the code and set the parameters – after model repaired
10. driver or software cannot be installed – system configuration problem – reinstall the system
11. if Print sample does not stick platform – too much distance between the nozzle and the platform – re-adjust platform
12. blue tape is difficult to take down – platform heating, it need about 20-degrees or 30 degrees can take down

8.Warranty affirms and License Agreement

Quality Assurance:

Our company can give you a good commitment for every commodity, the strict standard parts machining and assembly testing process to ensure that every product is qualified for high-quality products.

Sales Protection

1. Within 7 days of receipt the goods, if the products has problems, we will bear the return shipping costs for your free replacement or repair.
2. Since receipt the goods within 7-30 days, if the printing has problem, we will help you for free replacement or repair, repair freight each bear half.
3. Since receipt the goods in 30 to 90 days, if the printing quality has problems , we will help you for free replacement or repair, but you need to pay

the return shipping cost.

4. After 90 days the issue of all products, free advice, if you need to replace the accessories ,you need to pay return shipping cost and parts cost by yourself.

Shipping & Returns

1. Returns basic conditions: a guaranteed for product packaging, product accessories, complete instructions, cut way to keep the same for sale of goods, does not affect the secondary sales. As long as the lack of one items, we can not accept returns, as a replacement, keeping retention gifts, if need return, please return it along with the gifts.

2. About Quality Returns, please check the goods carefully in the date of receipt,, if found problems about the quality of the goods, please take photos and contact us within 5 days .

3. Notice what content we will not give you a return service: (1) requires the completion of the returned goods received commodity packaging, accessories, manuals, etc., missing not provide return. (2) the purchase of goods have obvious stains, damaged or considered not provide return. (3) does not participate in giveaways service range. (4) If you use a non-CTC-brand consumables, resulting in product nozzle sum game, not covered by the warranty. (5) The products will be issued over the invoice can not be returned, only the quality can get a replacement.

4. About the product: (1) After finish printing, try cleaning nozzle and residual printing supplies within the extruder to avoid you print nozzle will sum game next time , which is the basic maintenance for 3D printer. Note: If you use other manufacturers dispensing nozzle supplies caused sum game, will no longer be within the scope of the warranty. (2) please plus rail lubricating, anti-corrosion lubricant once a month. (3) Do not print directly to the printer during power outages or metal objects directly conductor end printer components.

8. Operations Guide

Adjust the print platform for one piece A4 paper in the print screen to select Utilities (tool) and then select Lever Build Plate (print platform leveling) Select the middle button to confirm, according to the prompts pressing five successive intermediate key to confirm , print head will move to in front of floor, then both hands in one direction of rotation butterfly nut under the floor, so that the distance between the nozzle and the floor is just a piece of A4 paper thickness . A4 paper can be pulled by hand, you can pull it appropriately. Then press the OK button in the middle, behind the print head will move in the end plate, both hands in one direction of rotation butterfly nut under the floor, so that the distance between the nozzle and the floor is just a piece of A4 paper thickness . As mentioned above the five positions to adjust the thickness of A4 paper .

