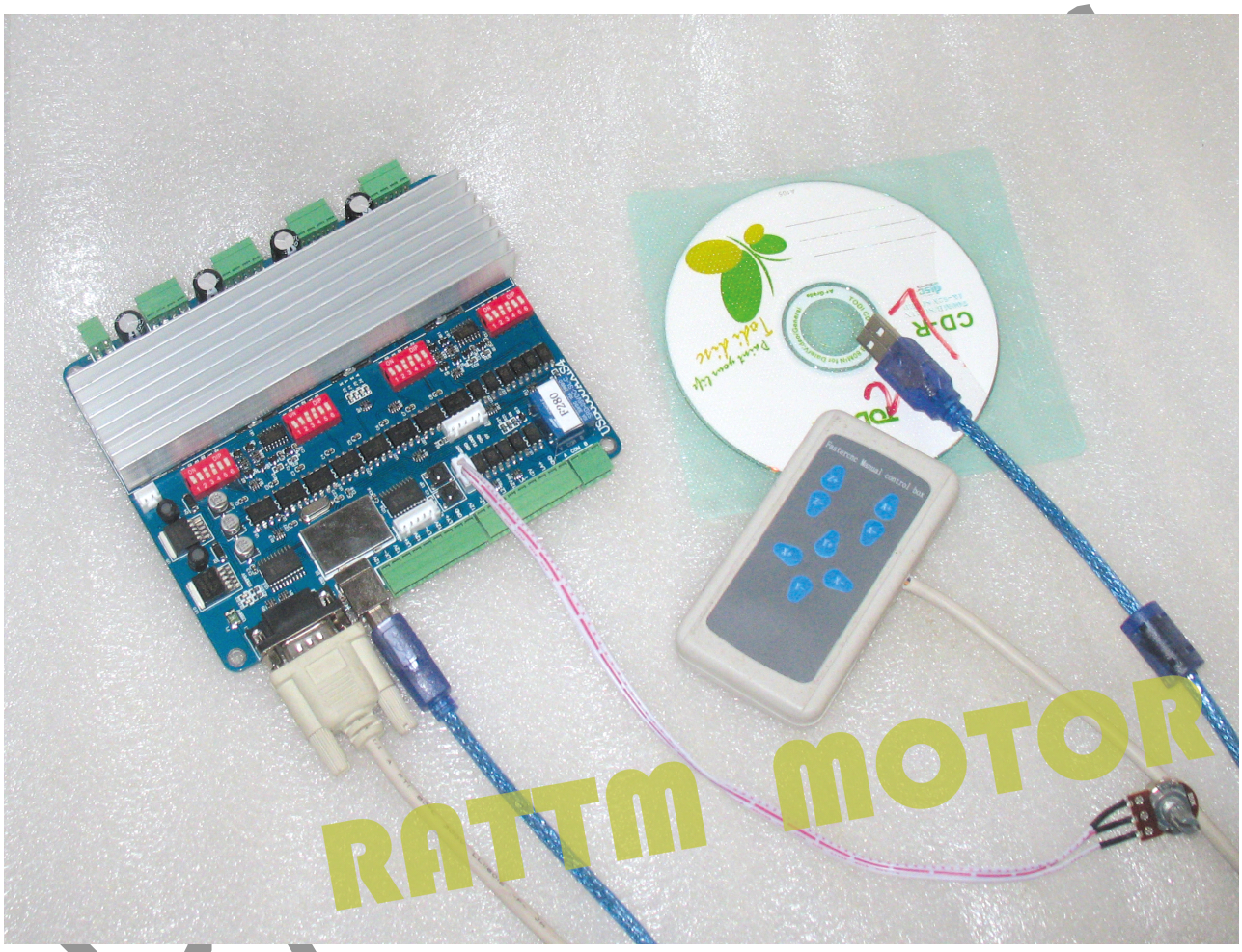
USB6560T4V2 4 axis USBCNC controller user manual



（V1.0 ）

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1 Overview

1.1 Product introduce

Our USB6560T4 is our company new product for 4 axis TB6560 cnc controller board with USB port,and it is suitable for cnc router machine economical type。

Feature:

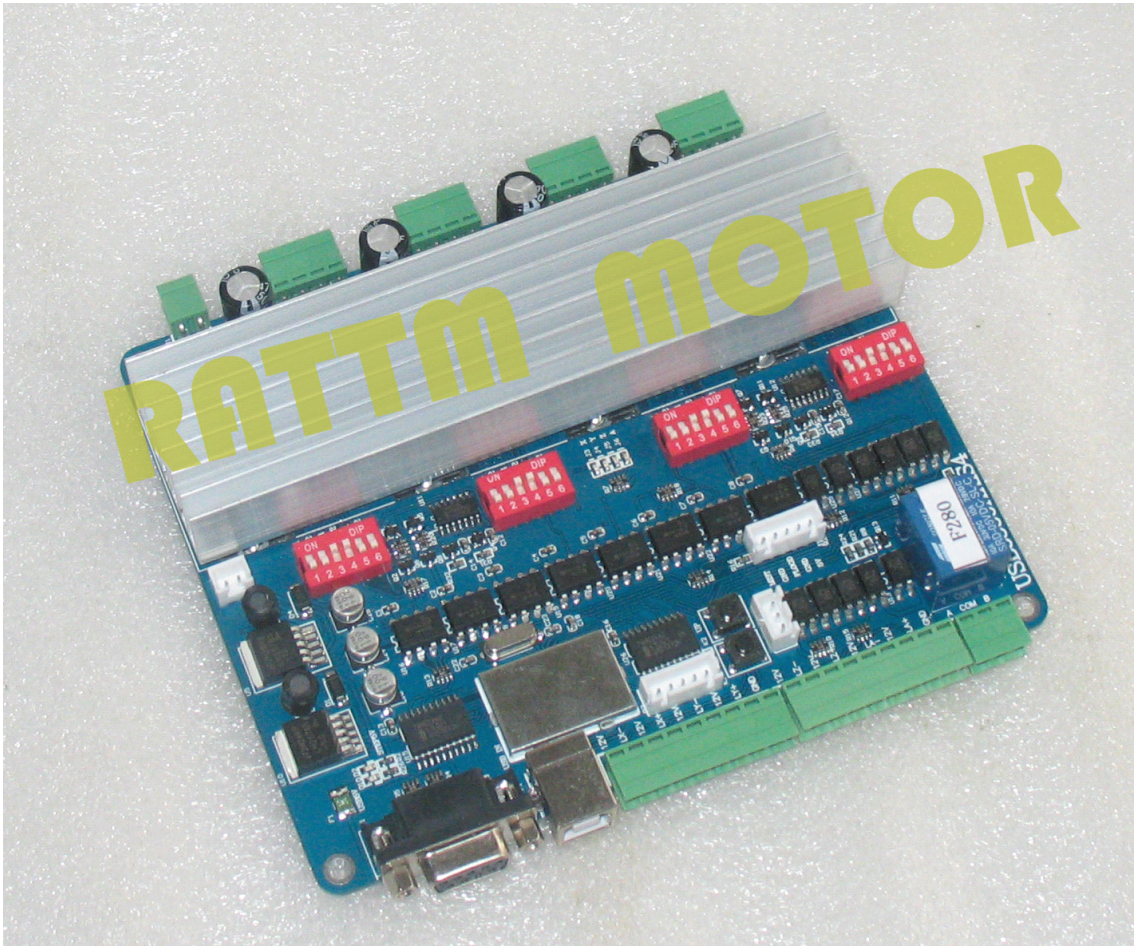
1. It is 4 axis and connect with computer,power supply,and stepper motor will be a compelet cnc electric controller kit.
2. 4 decay mode and fit for small than 3A 2 phase stepper motor.
3. It can connect 8-way limit switch(each axis with up and down limit),this is more advantage than mach3.
4. It can connect with manual control which could be with off-line work too,it is convenience to adjust the coordinate when tool setting.
5. 4 current setting:0.75/1.5/2.25/3A.
6. Extend 3-way relay port which can control as spindle stop-start,water-cooling,and mist spray switch.
7. Automatic current down,it will be 25% of full current when stepper motor stopped to protect the motor and IC chip.
8. With 12VDC power supply and for customer connect with 12VDC application or with fan.
9. The software is USBCNC,not mach3,pls note this.

New version USB6560T4V3 compare with USB6560T4V2 different:

1. PAUSE & RESET port are set.
2. A new Shield is set for the main control IC,it make the system more Stable.
3. Manual control speed can be set by a Rheostat.
4. The circle is Optimized,

This item is easy to operate for DIY hobby user,but it is control by USB port,so need more careful for the software install,and pls must be strict read the user manual and follow us.

1.2 Picture

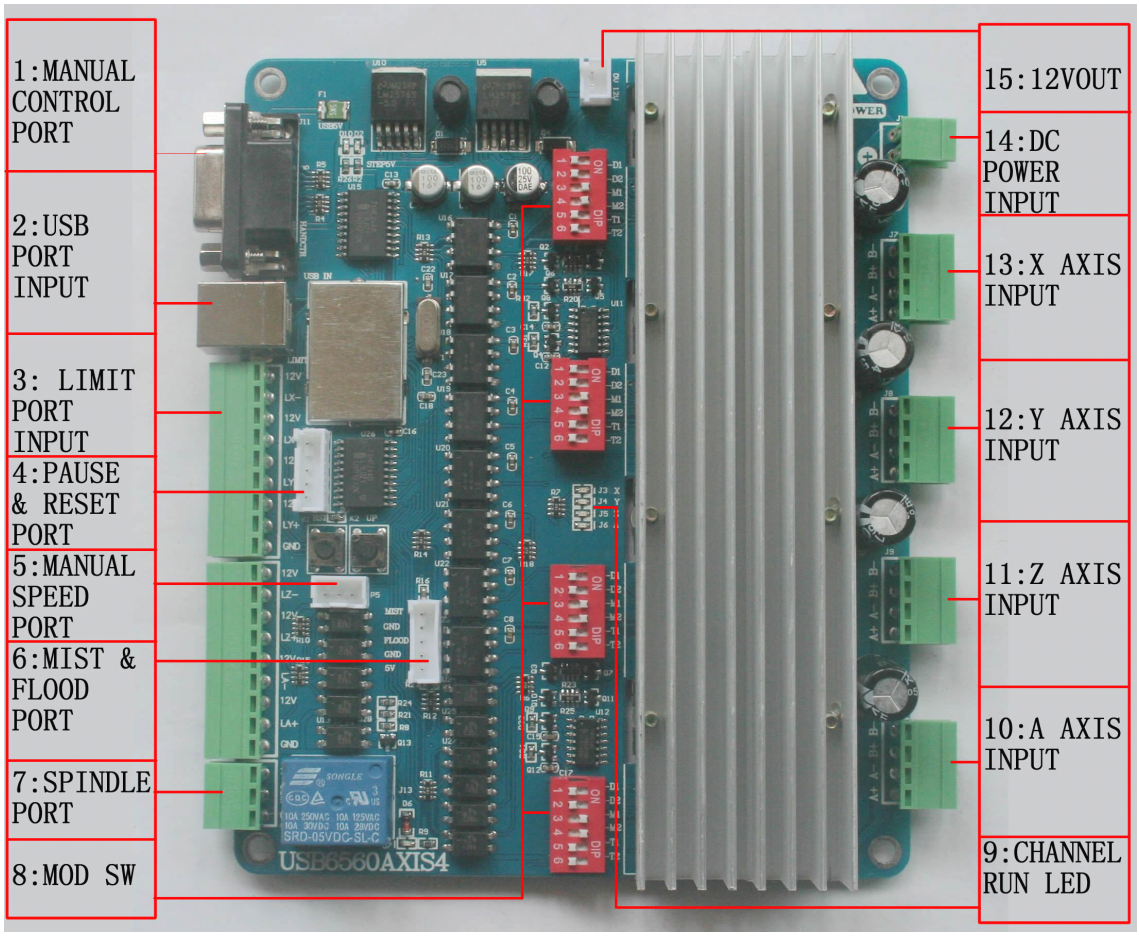


2 Operate user manual

2.1 size

123*151cm

2.2 detail drawing



As above drawing,each defined as follows:

1：USBPROT INPUT

Is input with USB port， means connect with computer by this port for signal transmission,**pls be careful must use the USB2.0 cable with signal shielding and magnet ring,and wires not more than 2m**

2: MANUAL CONTROL PROT

DB9 Pins	1	2	3	4	5
Definition	COM	A axis clockwise	Z axis down	Y axis forward	X axis left move
DB9 Pins		6	7	8	9
Definition		A axis anticlockwise	Z axis up	Y axis back	X axis right move

3: LIMIT INPUT PROT

PIN number	1	2	3	4	5
Definition	12V	X axis bottom limit	12V	X axis top limit	12V
PIN number	6	7	8	9	10
Definition	Y axis bottom limit	12V	Y axis top limit	GND	12V
PIN number	11	12	13	14	15
Definition	Z axis bottom limit	12V	Z axis top limit	12V	A axis bottom limit
PIN number	16	17	18		
Definition	12V	A axis top limit	GND		

- Note:the Z axis bottom limit definition is same as tool setting in this software,means they are reduplicate

4：PAUSE&RESET PORT Definited as PAUSE NC GND NC RESET, you should set a botton from PAUSE to GND if you want to use PAUSE function;you should set a botton from RESET to GND if you want to use RESET function.

5：MANUAL SPEED PORT Please put the Rheostat into this port,then you can change the manual speed.

6：MIST&FLOOD PORT Cooling mist and cooling liquid control relay,see drawing follow 4 pins is MIST GND FLOOD GND,and can connect 2pcs extra replay or used as IO export.

7:SPINDLE PORT Spindle control reply,see drawing follow 3pins is Normal Open/COM/Normal close.

8：MOD SW,

D1/D2：

D1	D2	Working mode
ON	ON	Fast decay
OFF	ON	50% decay
ON	OF	25% decay
OFF	OFF	Slow decay

M1/M2：

M1	M2	Microstep
OFF	OFF	1
ON	OFF	1/2
ON	ON	1/8

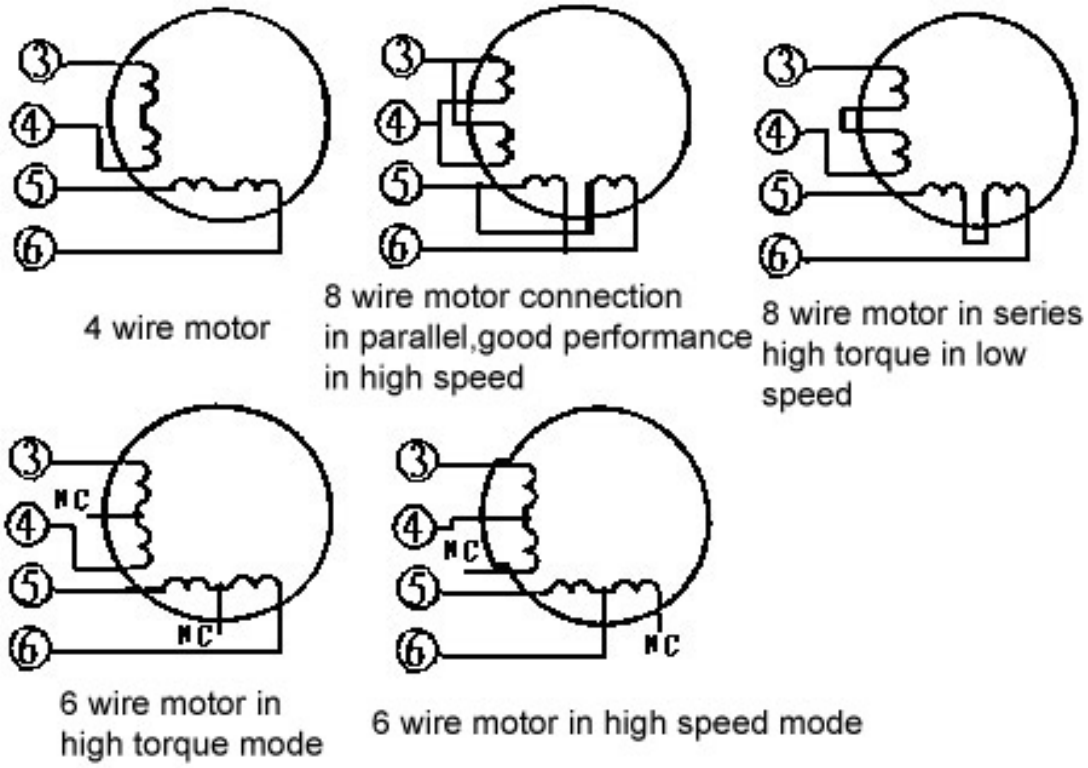
OFF	ON	1/16

T1/T2：

T1	T2	Current
ON	ON	0.57A
OFF	ON	1.5A
ON	OFF	2.25A
OFF	OFF	3A

9:CHANNEL RUN LED Channel working led light,the led light will be on when stepper motor run,and it will be off when stepper motor is stop.

10\11\12\13:Stepper motor connection：



Stepper motor A 、 -A 、 B 、 -B connect cnc controller board's A+ 、A-、 B+、 B-

14：DC POWER INPUT Power input port,and it need 12-32VDC input,also it is better use more than 6A power supply.

15：12V OUT This port output 12VDC voltage,1.5A biggest output current,it can connect with fan and

12V device.

3 Software install and guide

3.1 Software install

In real that install this softare is a little complex,because it developed by vc.net,and it need directx and .net framework software package support,also be strict required for these 2 type software package version,so it is better use our software to install which is in our CD,if meet the software package conflict or can't run the software after install it,pls use a new system PC to install this software.

Pls remember this!

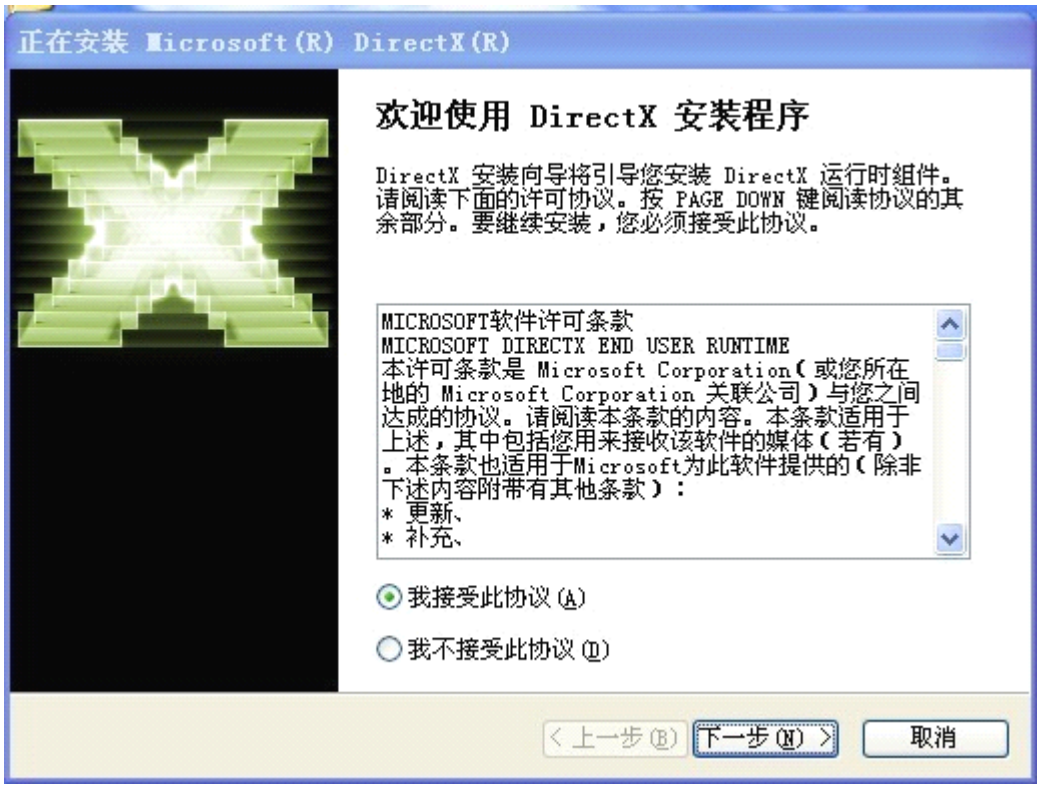
Our CD contain USBCNC software,driver,directx and net framework,user manual,software install guide and register code.each controller match independent register code,so when you get pls safe keeping it.

Above is CD detail

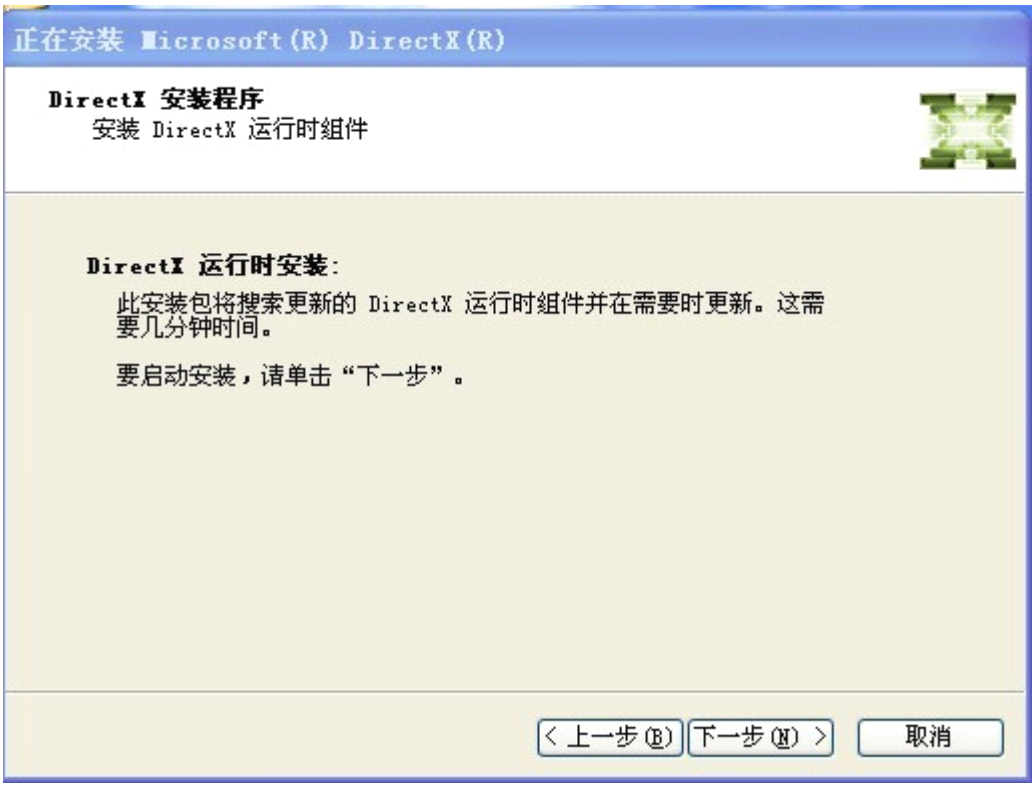
Install the software as below:

1：first install and run the "directx_9c_redist" 。

this software install is simple



Click accept and next step,

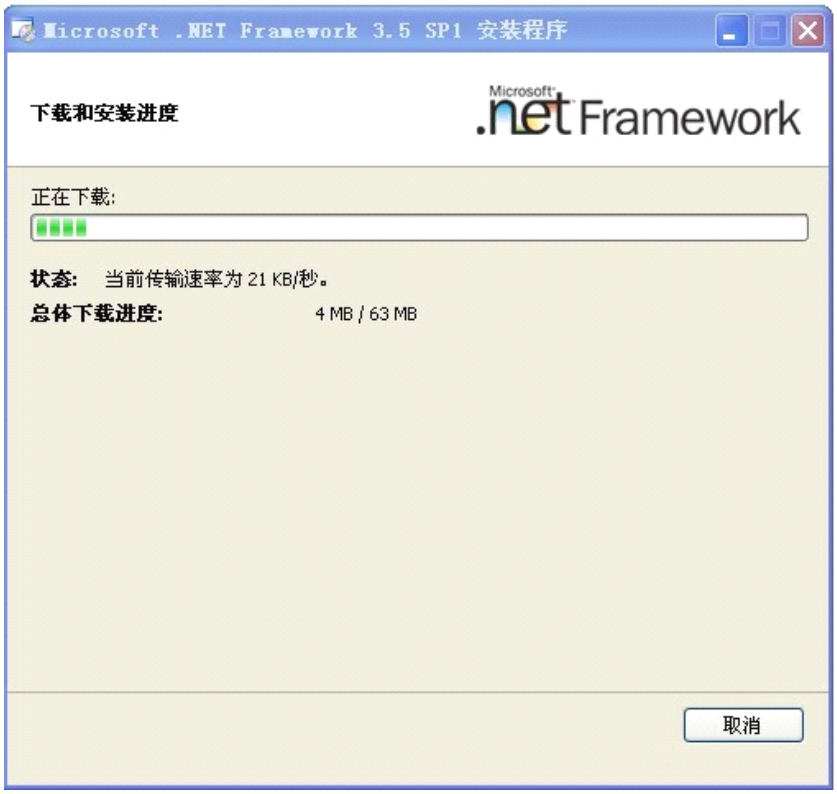


Continue to next step

2：run “dotnetfx35”

install “net framework3.5sp1.”

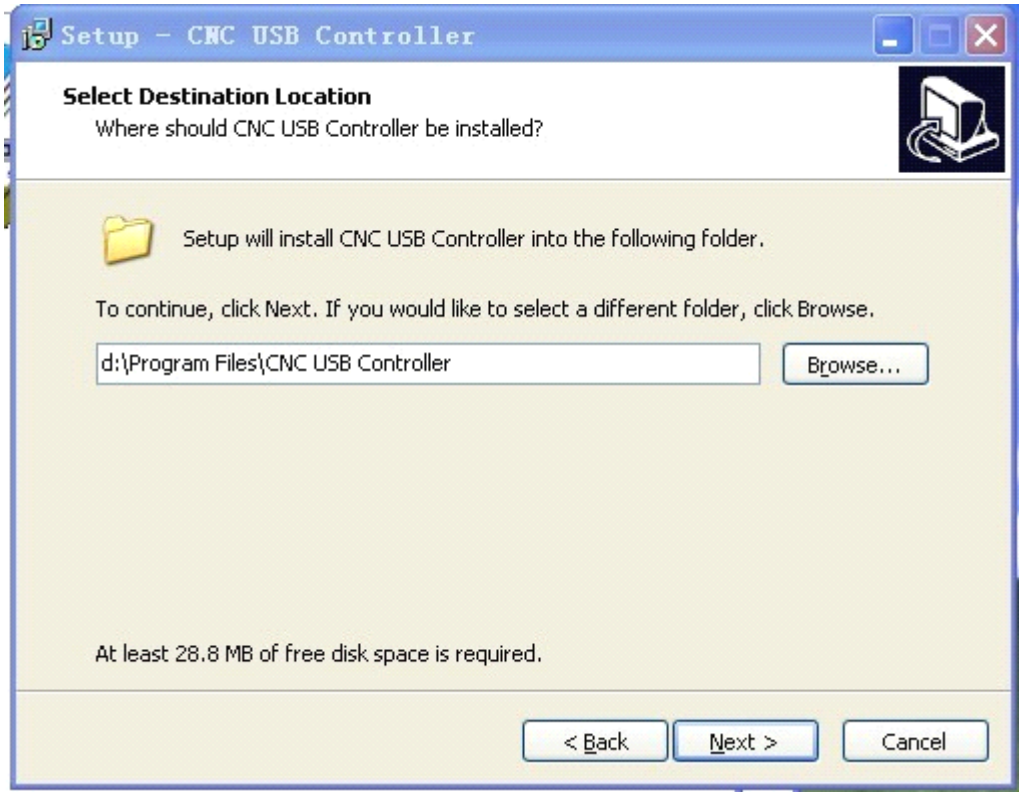
Select the accept then click install



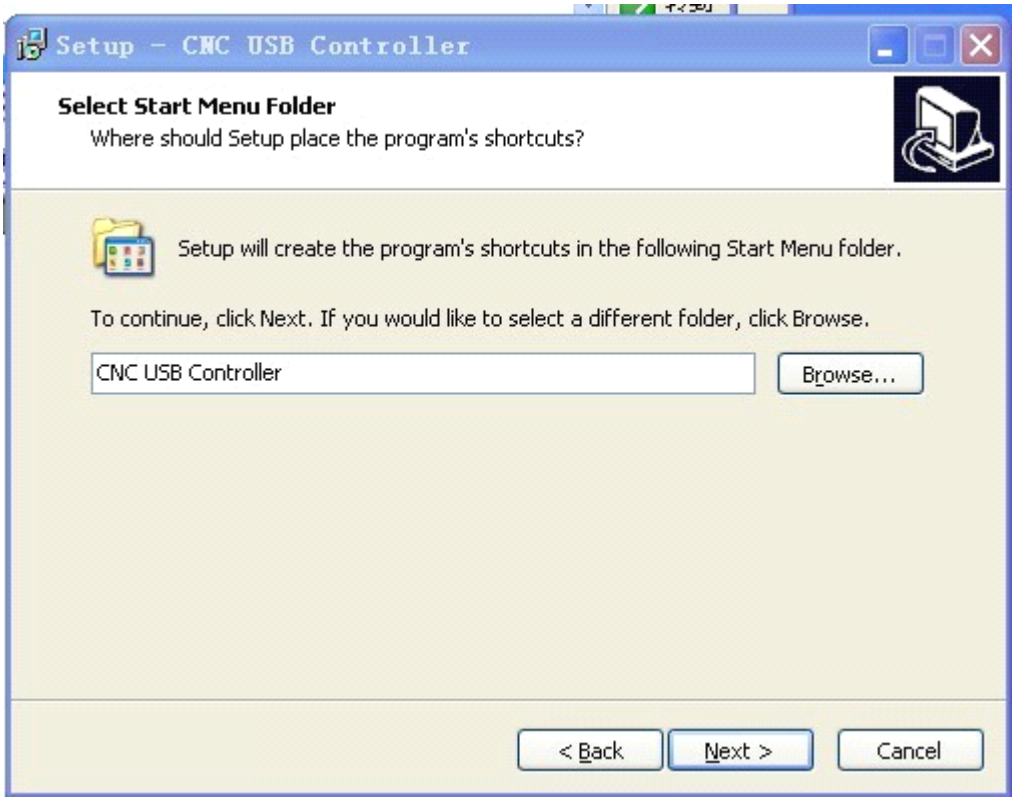
Continue to click “ok”

3：run CNCUSB_Setup install the main program

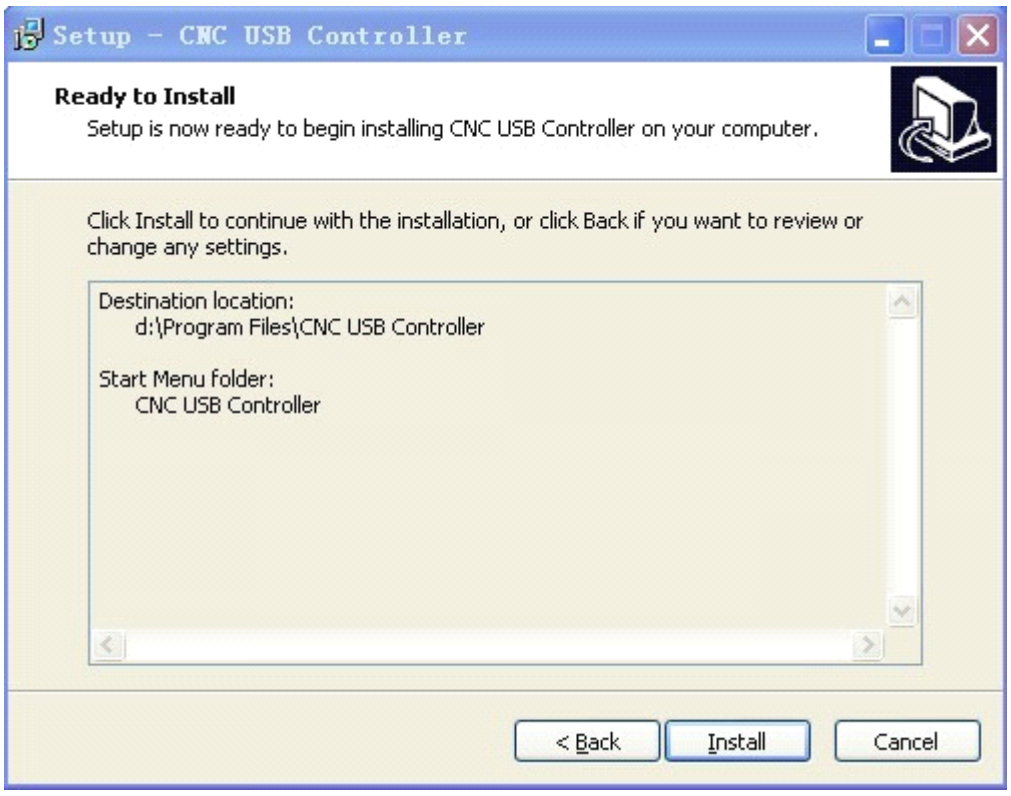
click”next”



Slect suitable install path,then “next”



“next”

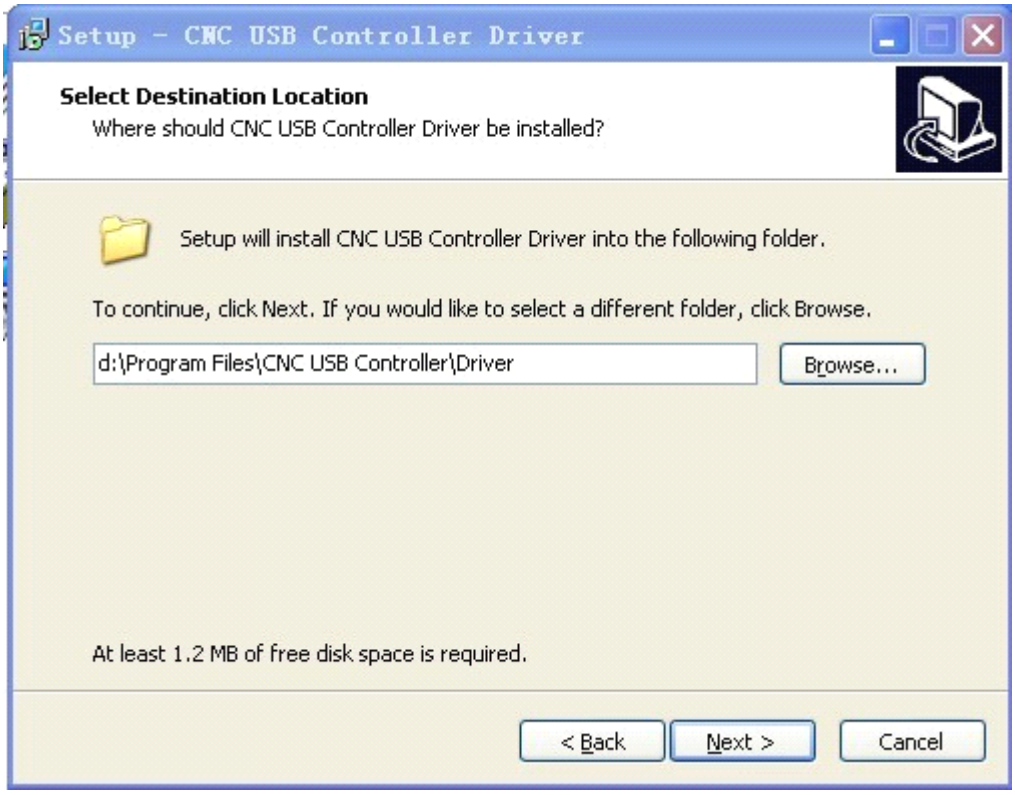


Click “INSTALL”

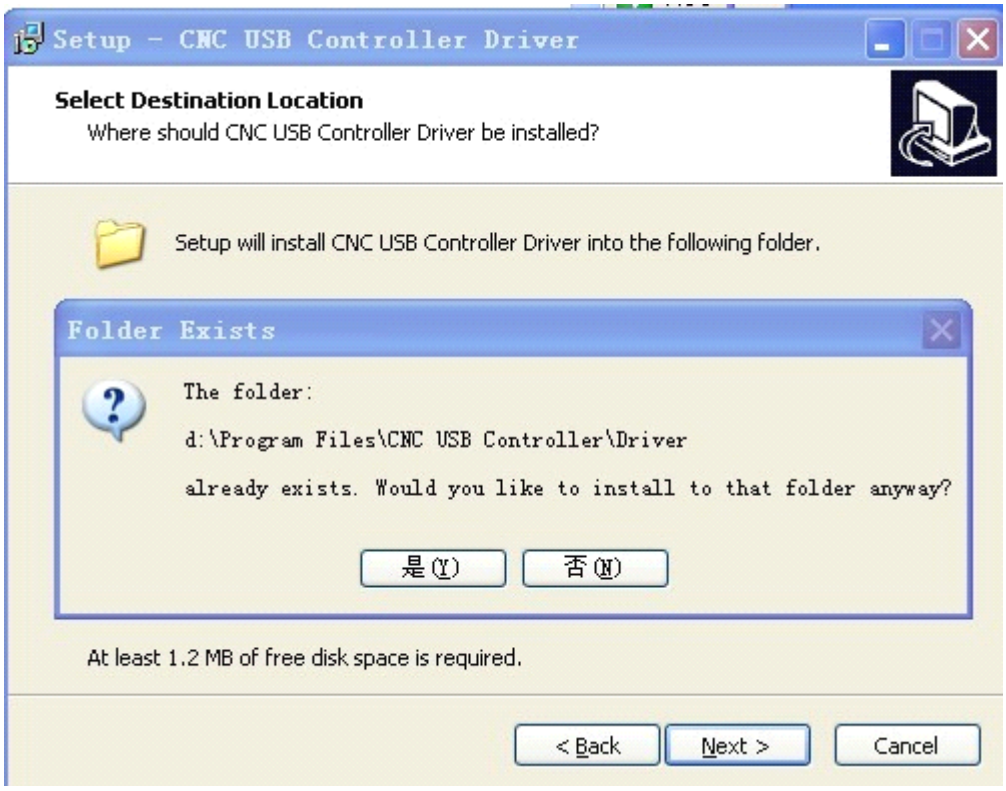
finsihed

4：intsall USB driver “CNCUSBControllerDriver”

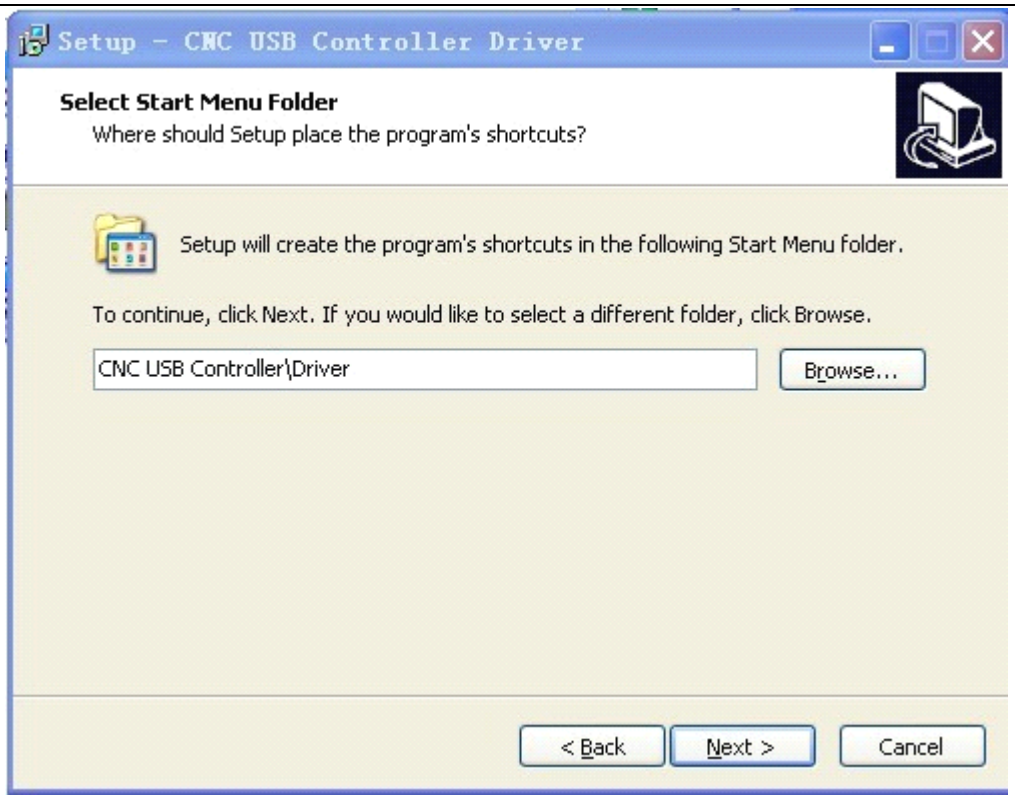
"next"



Select path,pls keep the same path with main program



Here I change to D disk,so see above and click "Yes"



"next"

Click "finish"

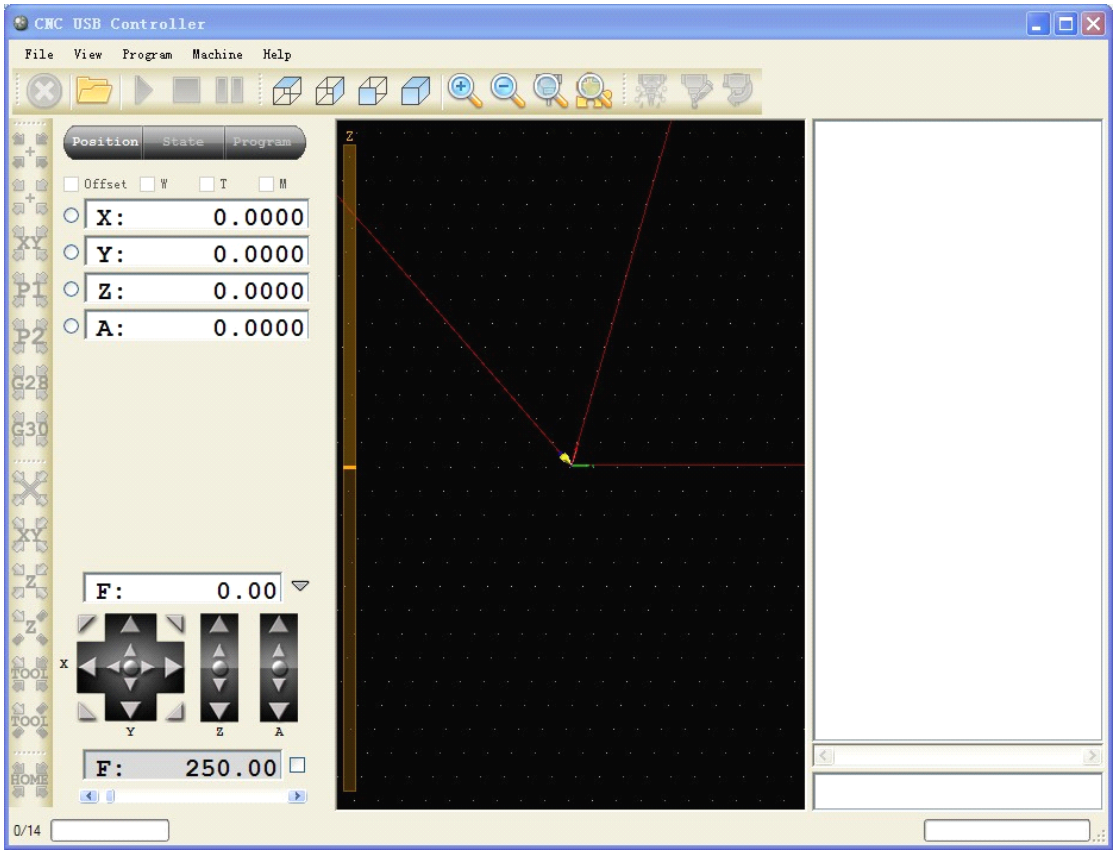
Now the software install work is finished

3.2 Software register

The register is important and if un-successful register,the software won't work,so pls be careful to follow our guide

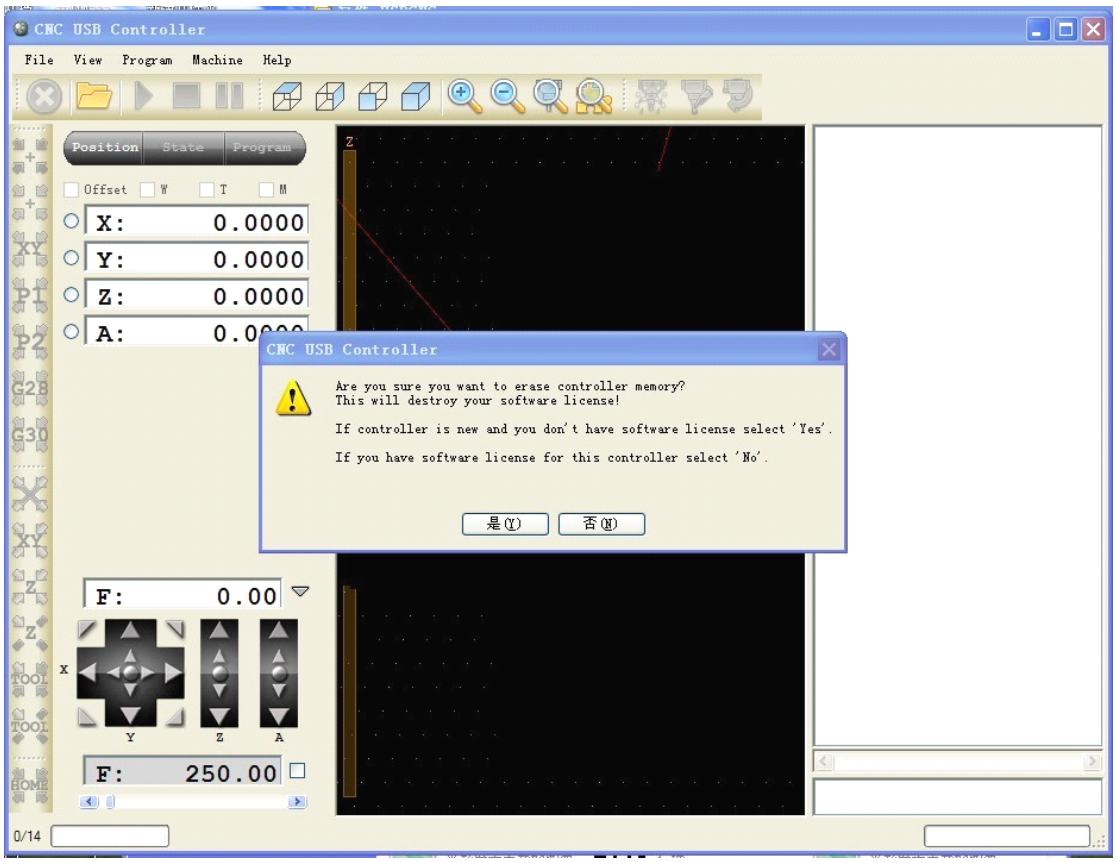
1: after install the "usbcnc",to find the "usbcnc" software,so I setup a shortcut for this software on table,double click "usbcnc"

enter it

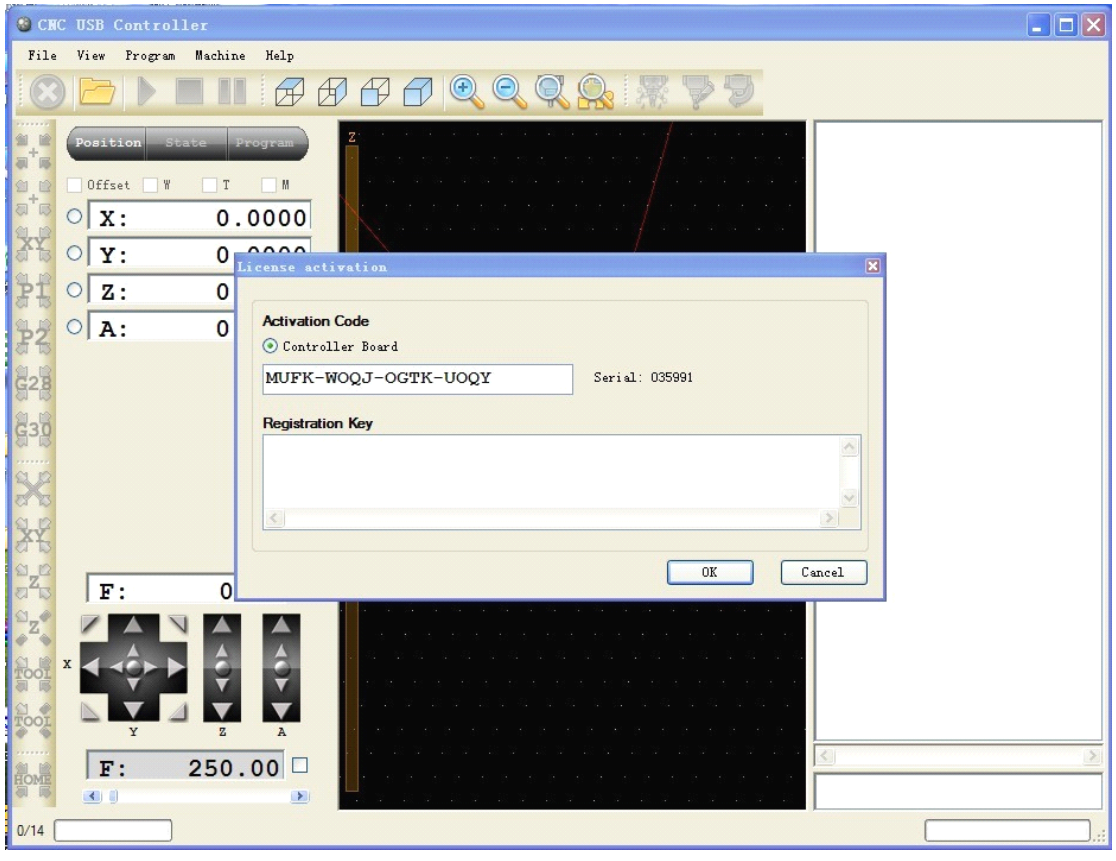


The software interface

2：connect USBCNC controller to the PC by usb cable （pls use back usb port 2.0 type）,then will display below

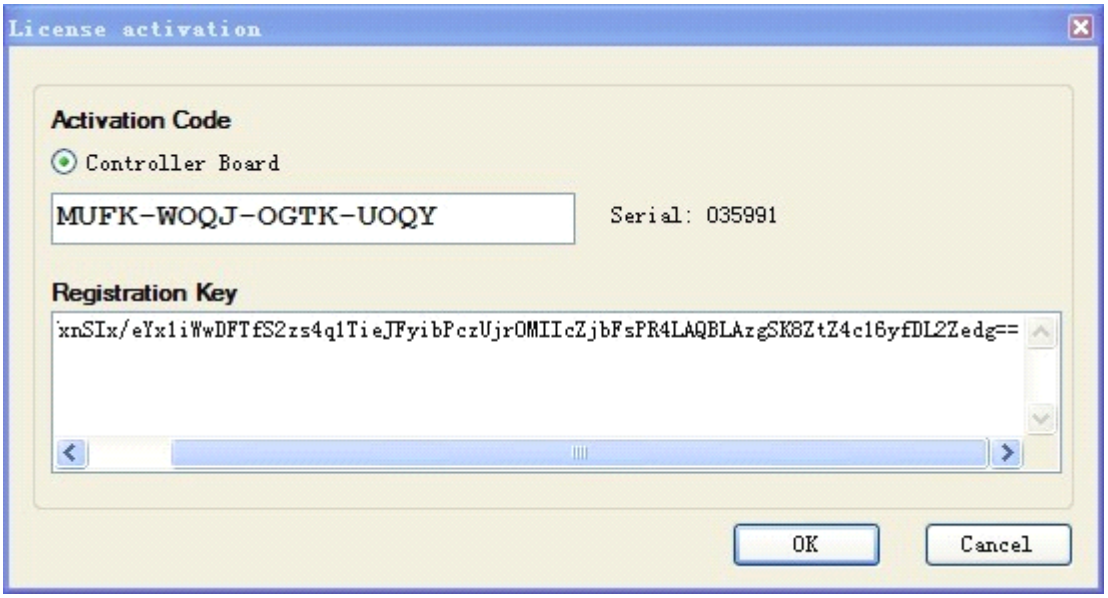


Click"Yes",then display below

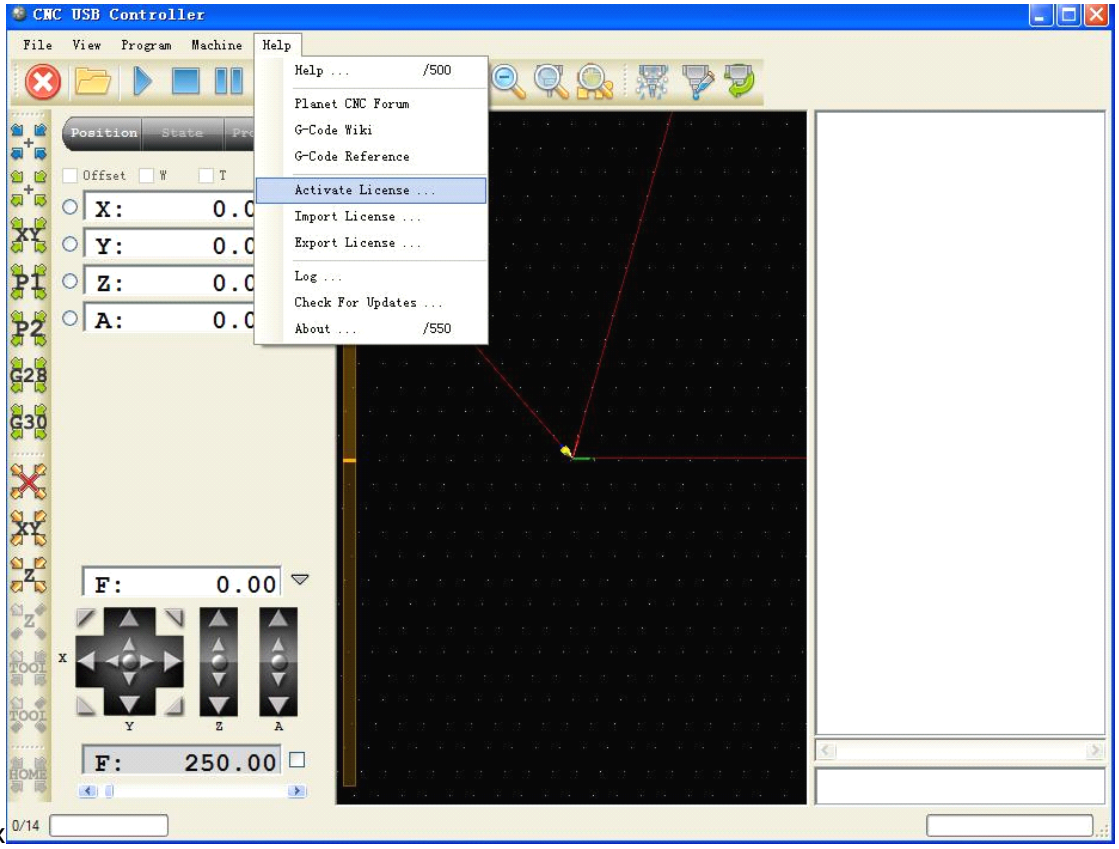


Here pls copy the register code(in the CD) to the "registration key"

The “Key” file of CD see above,the first row character string pls check whether is same as in software,and the second row is key,pls copy this key to “registration key”

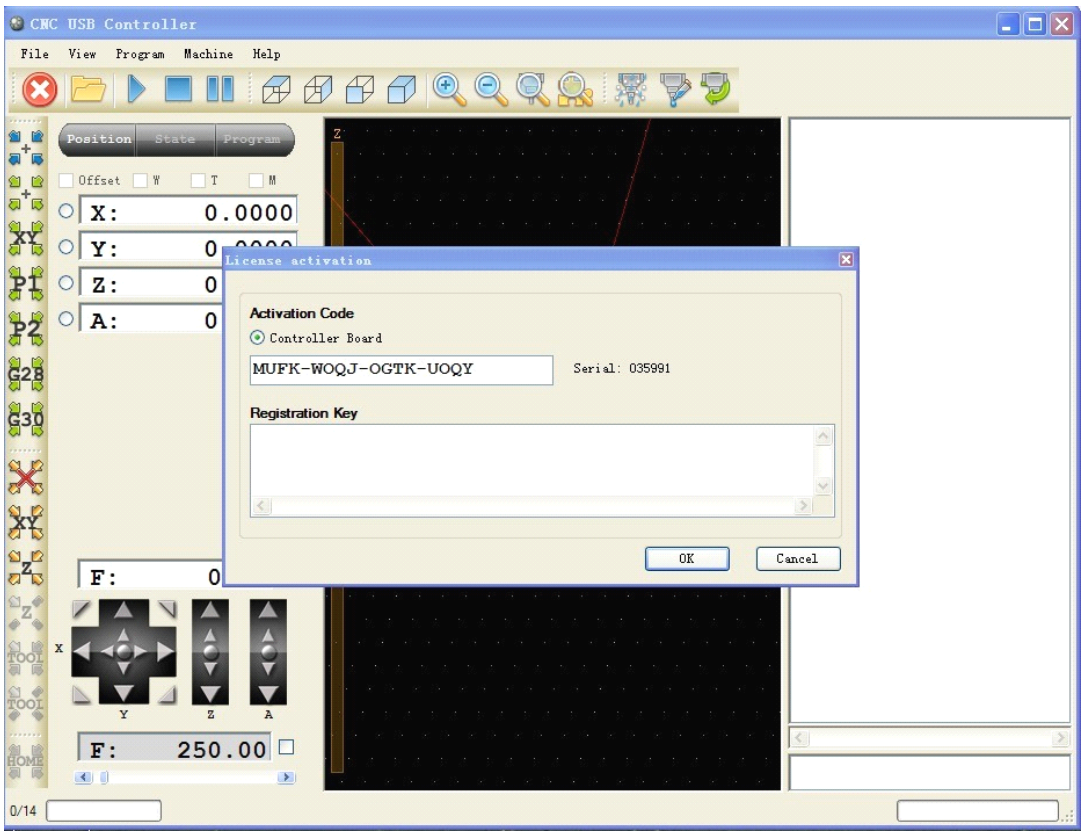


Click”OK”,then



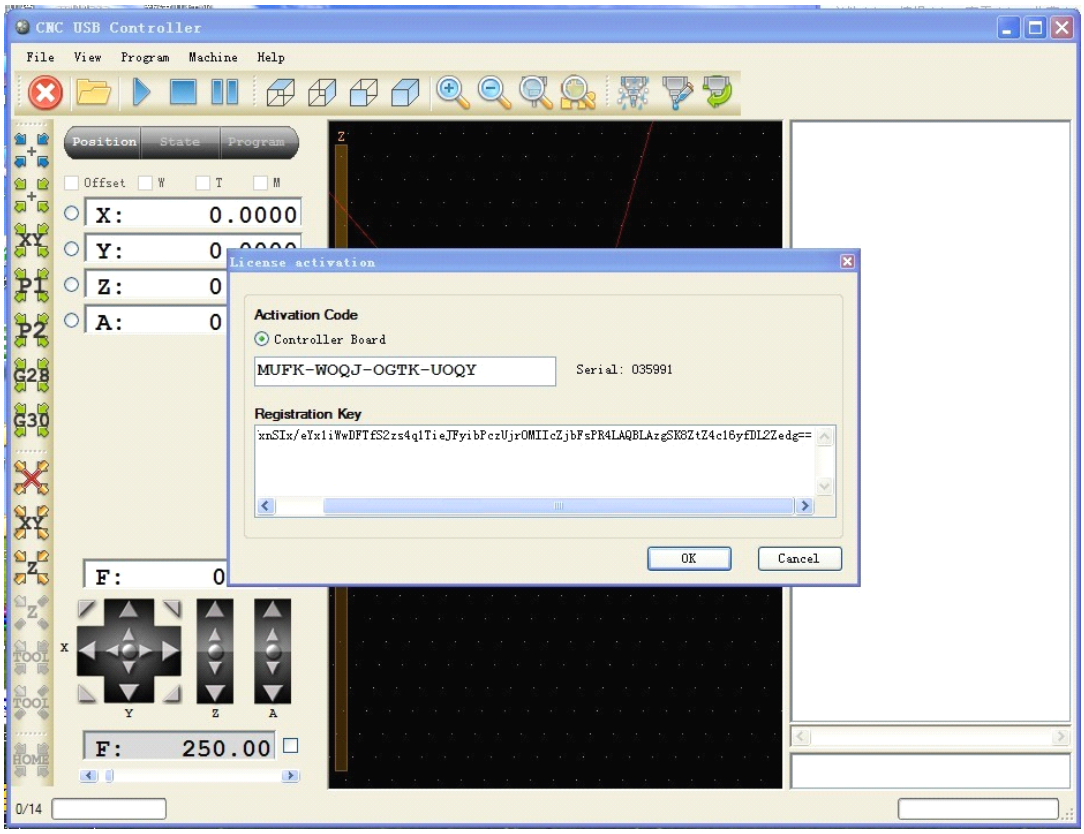
nex

Click the"activate license" submenu in the "Help" menu



Will display the register code dialog box again,then copy the second row content of "key" file to this

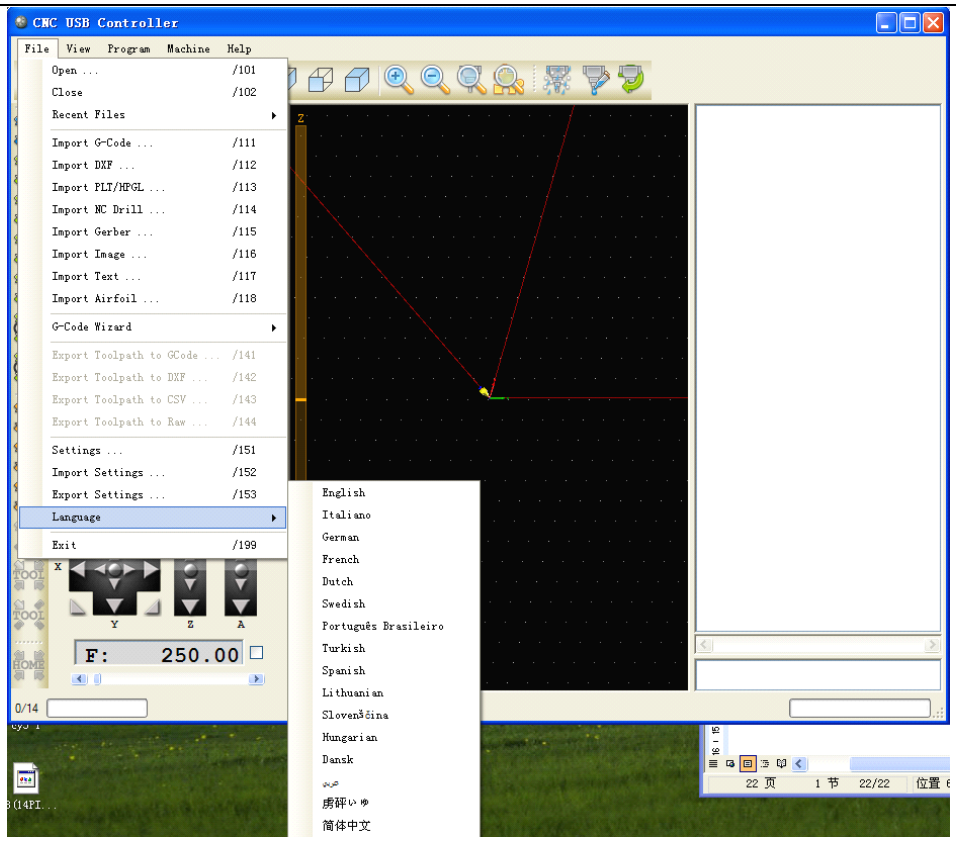
dialog box.



Click"OK",so all register job is finished to start work

3.3 Normal Setting

1：software language setting

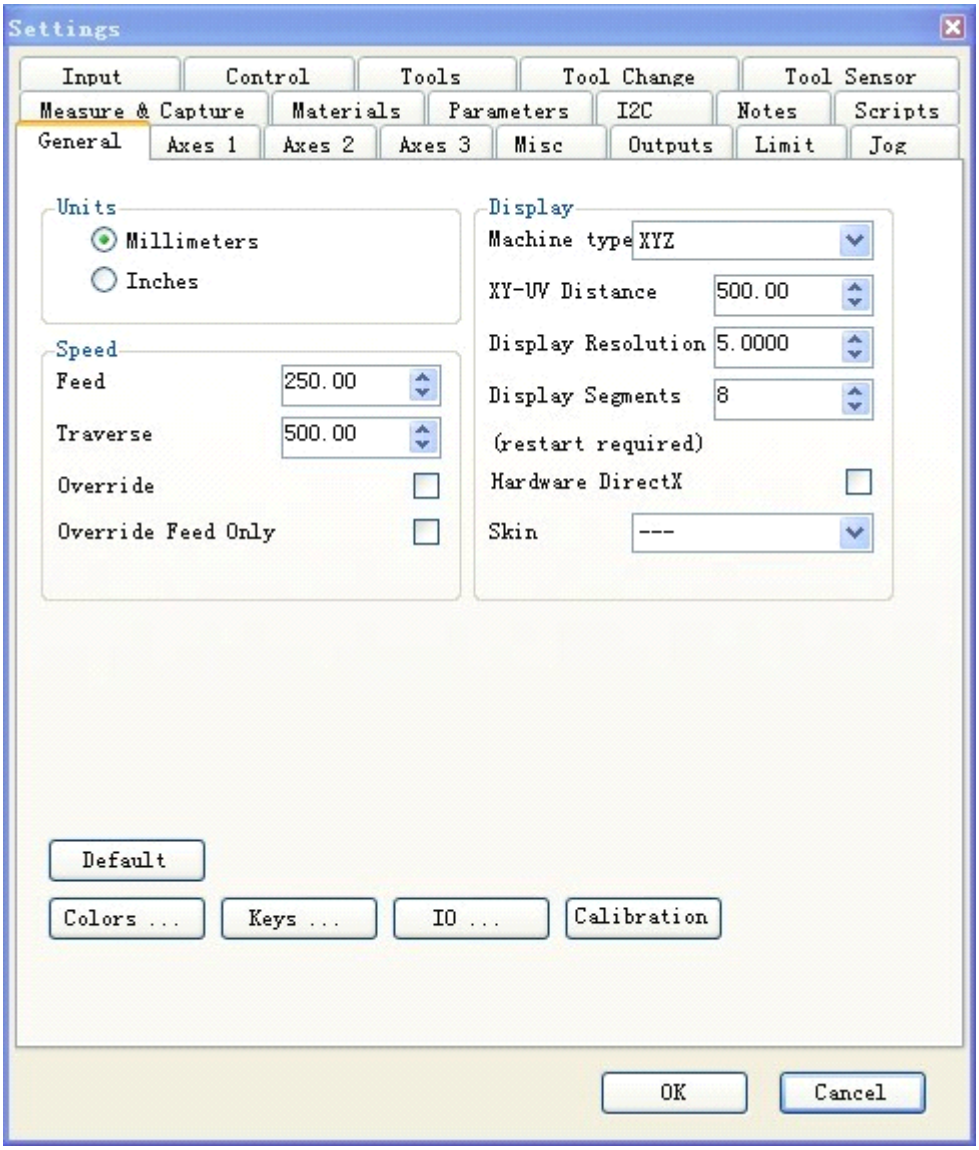


Click File Menu's submenu "Language",then chose your language

2：Software setting

Click submenu "Settings" of "File",then can configuration the software

Enter the follow



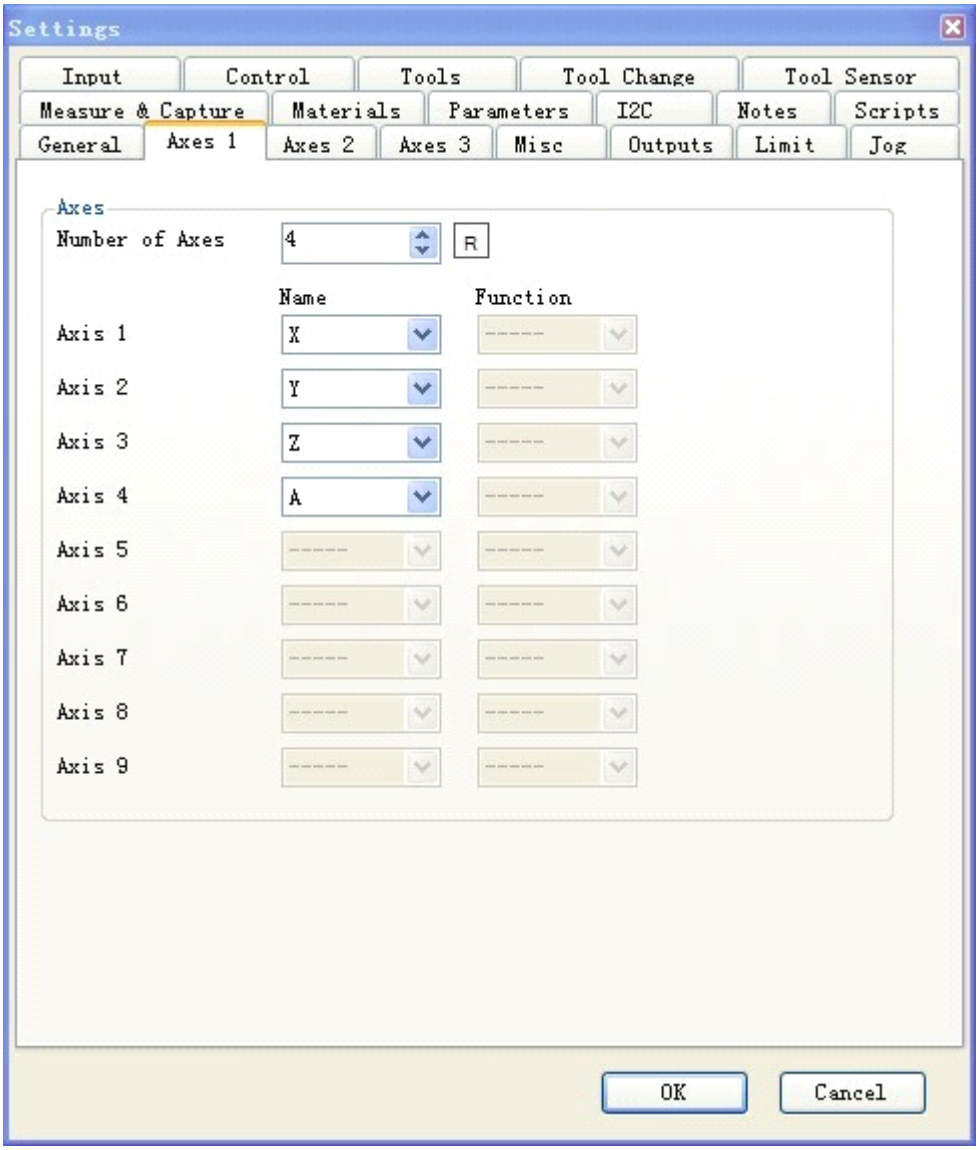
As above display have 20 subpage,and we will description some usual setting as below

1、“General”:This is the most usual setting

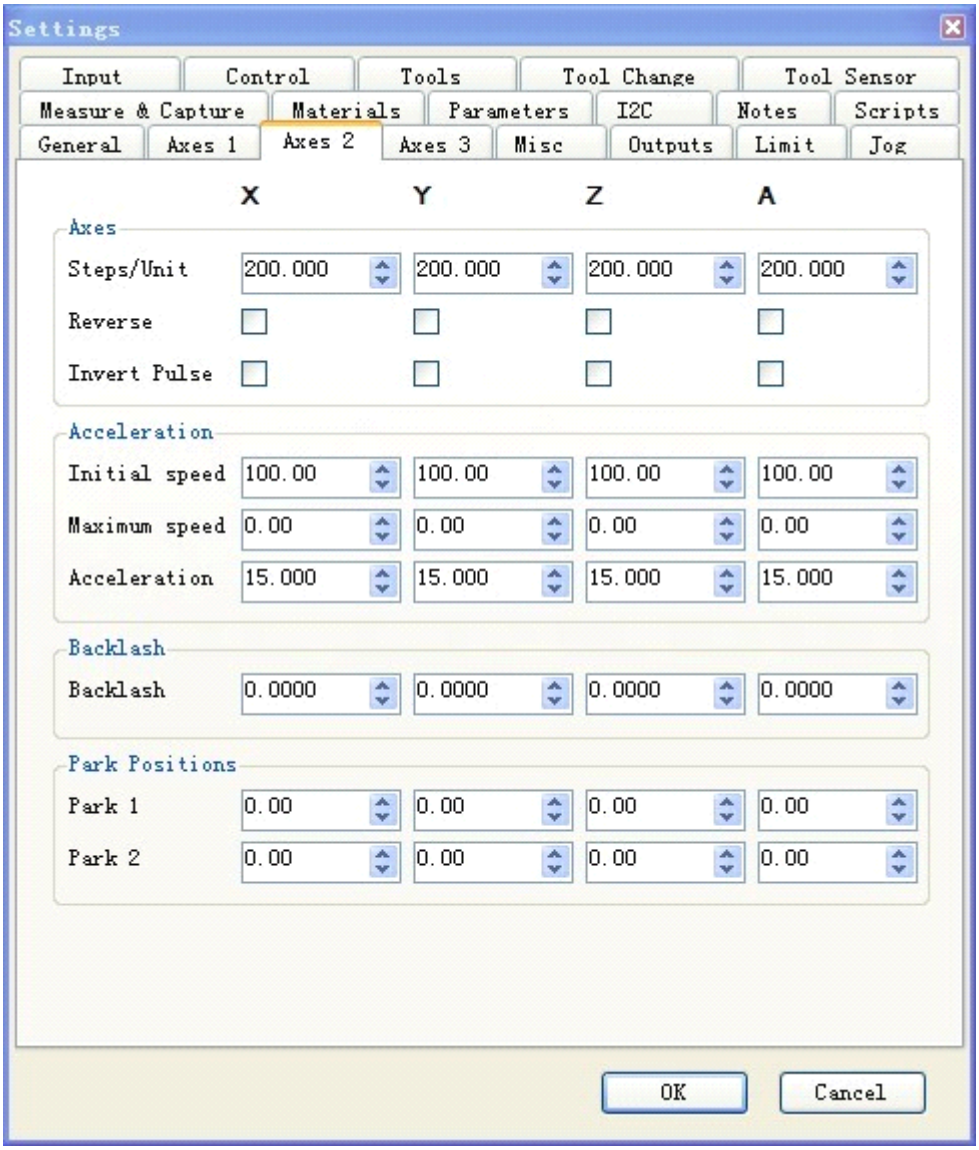
- “Units” have metric and inch to chose
- “Speed” have feed(working speed) and traverse(un-load speed),and the below select “override” and “override feed only” indicate the speed and the working speed is valid
- “Display” is display setting,the “machine type” have “XYZ”(normal cnc router) model,”hot wire”(foam cutting machine)model,”rotary”(A axis)model and “rotary ABC” (ABC rotary) model to chose
- “XY-UV” is distance setting,and then resolution setting and segment display setting
- “Hardware DirectX” to chose the whether you need use DX,if you need the flash effect will be more better,”Skin” is the skin choice,these 2 choice need re-start the PC can be valid
- “Default” button is enable all setting to be the original,be careful for this select
- ”Colors” is the forms color
- ”Keys” is the shortcut key setting
- ”IO” is the state observation

- ”Cabibration” is all axis calibration

2、”AXES1” is the axis number and name setting

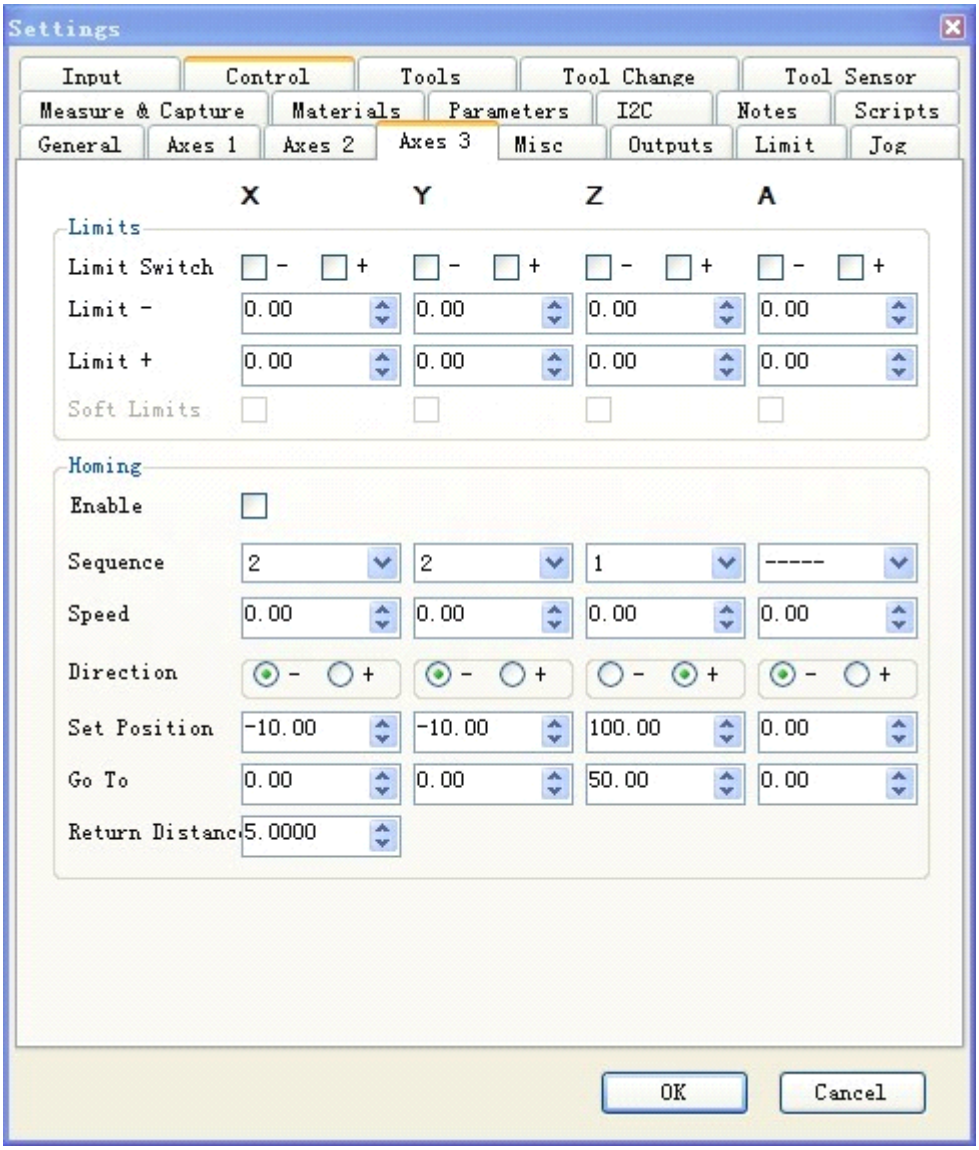


3、”AXES2” is the step, speed,acceleration speed,and backlash etc setting



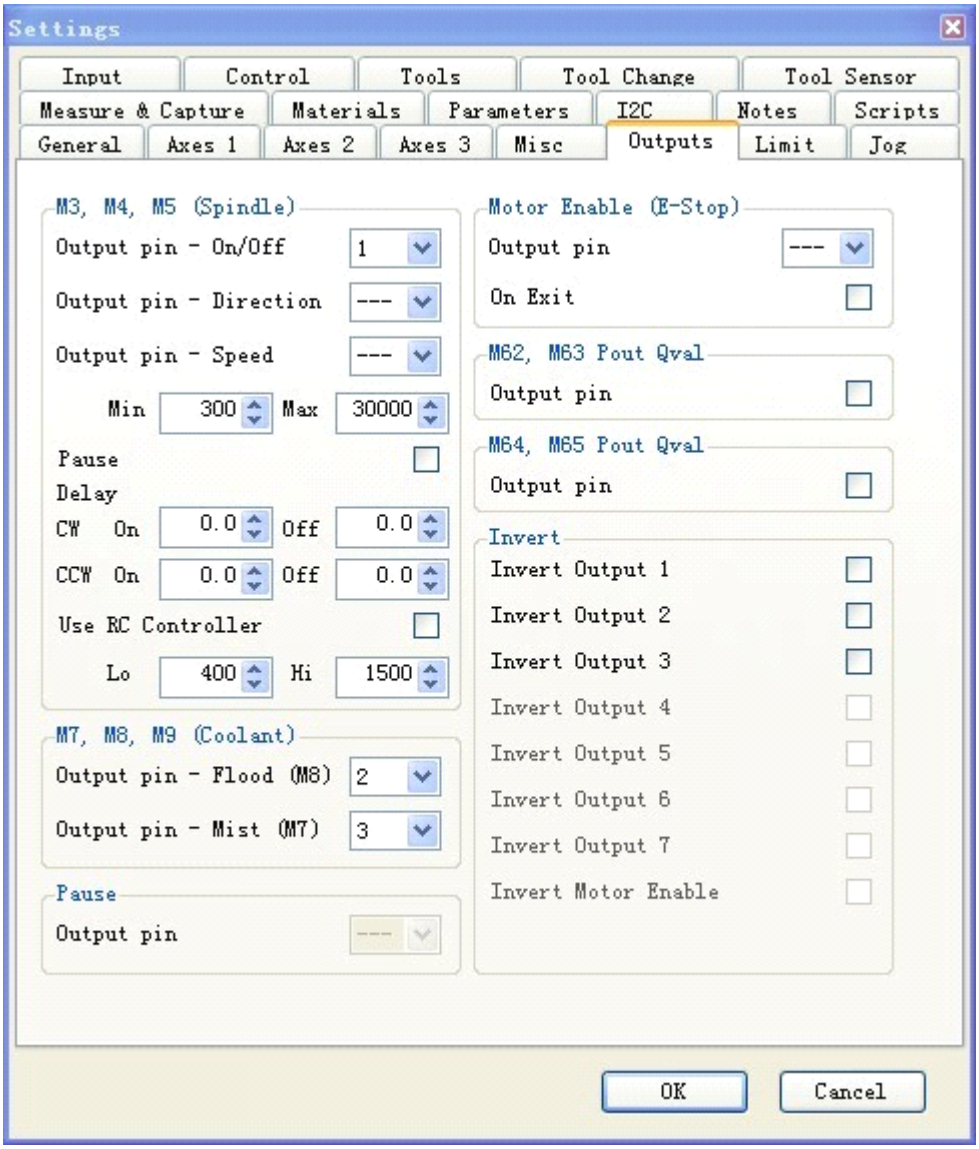
- “Step/unit” is step per setting,means when move 1mm need the pulse number,the “reserse” is the direction choice,when you find the movement is oppositely,you can chose this,”invert pluse” is pluse direction choice.
- “initial speed” is the start speed,”Maximum speed” is the max speed,if 0 means the max speed is according to the system max speed
- ”Backlash” setting need according to the real mechanical structure
- ”Park positions” is cutter tools position choice,if need automatic tool changing need chose this

4、”AXES3” is for software limit and “Go to zero” setting



- “-“ and “+” of limit switch is soft limit setting,and “Limit –“ and “Limit+” is upper limit and lower limit setting
- “enable” it is valid,”Sequence” is the sequence of all axis go to zero,”speed” is the speed setting,”direction” is go to zero direction setting,”set position” is setting the current position,”Go to” is setting the position want to move,and “Return distance” is setting for back distance

5、”OUTPUT” is for 3pcs relay ouput setting



This board have 3 way relay output,and it could be setting in this column

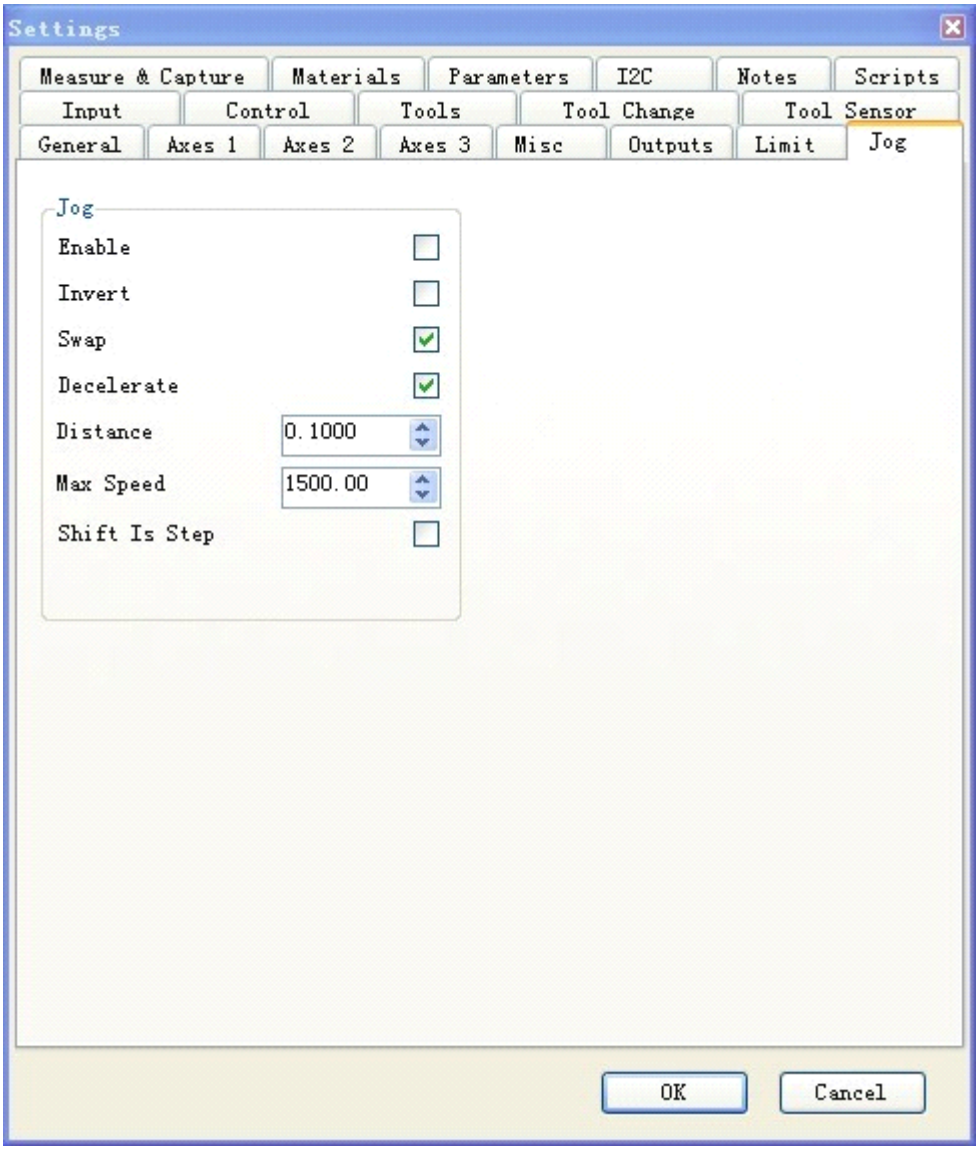
- M3,M4,M5 is spindle on/off,direction and speed,here can setting min and max value for the pluse to control the spindle speed

”Delay” can setting the delay time for the CW and CCW rotary,if the spindle inertia is big,it is should be setting delay

“User rc controller” to chose whether use RC controller

- M7M8M9 is for water cooling or mist cooling,the “flood” default is relay2,and the “mist” defult is relay3
- “Invert” is for relay ouput convert

6、 Jog Manual Input

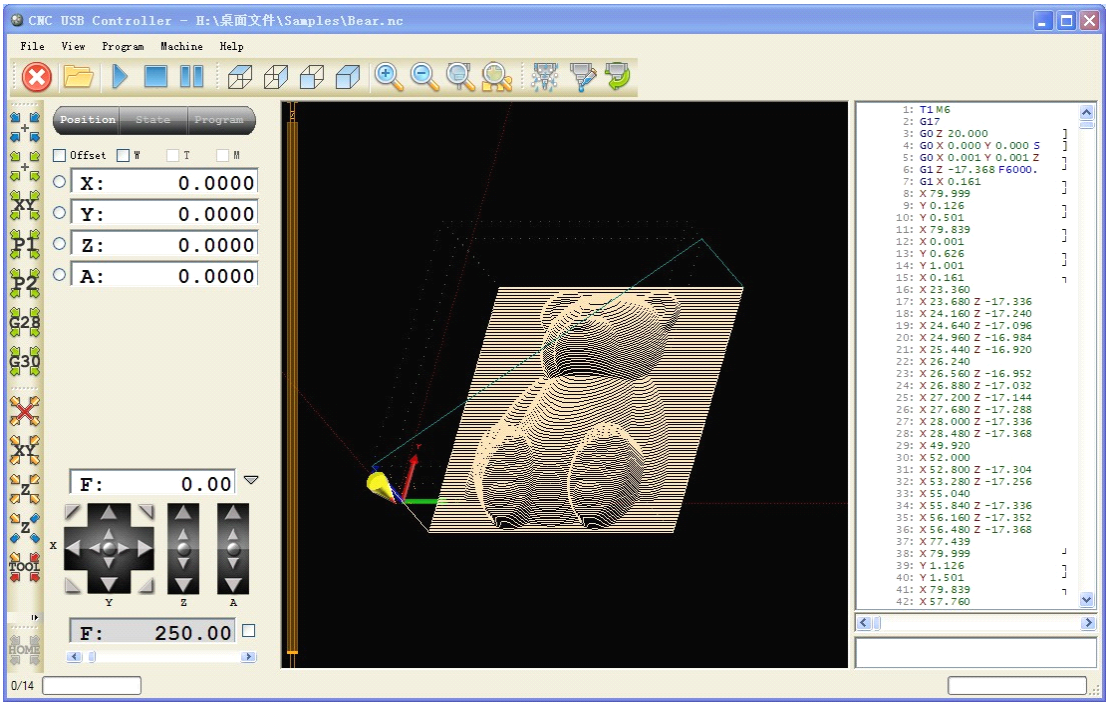


“Enable” is for chose connect external manual control,our cnc board have this function,so pls chose it
“Invert” is electrical level convert,this product no need chose
“Swap” default chose
“decelerate”is whether need reduce the speed before stop,need chose it
“distance” is step distance,it is according to your required
“max speed” is the speed setting。
“Shift is step” is single step speed setting

The usual setting is all description,and then can control the cnc machine now

3.4 Software Usage

Click”file”menu,can open the file directly or input the G-code WDXF etc file,here we open a little bear diagram



1、 This button is Reset,open,run,stop,suspend

2、

This button is top view,side view,front view, space diagram,amplification, minification,scale tool, panoramagram.

3、

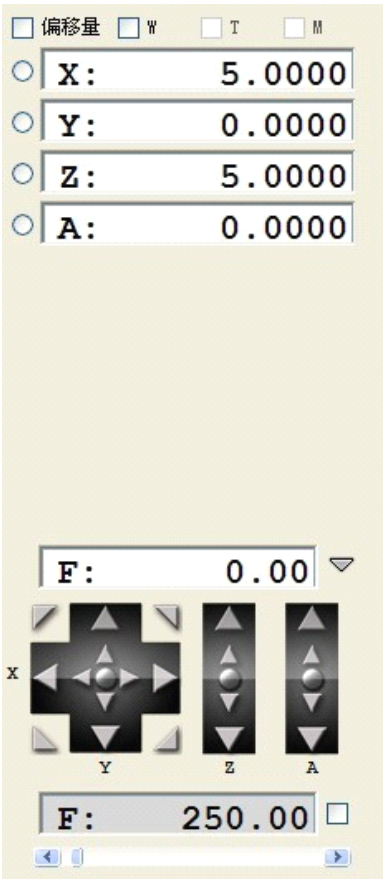
This button is mist cooling,water cooling,spindle on/off.

4、

This button is control each axis speed move to the position,from top to bottom is clear zero,go to zero,go to XY0,go to park1,go to park2,go to G28 and go to G30.

5、

This button is setting for offset,from top to bottom is clear zero,current position setting XY axis offset,current position setting Z axis offset,Z offset height value and cutter tool offset value.

6、 

This button is 4 axis coordinate display.
Now you can input G-code,and setting the software,then run the machine.

If any questions pls contact us!

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