

5axis CNC Series Manual

Thank you for choosing our products better and faster for you to use NC products, please read this manual, make sure the pump is started before the water-cooled spindle function boot after installing the software, please click the manual settings Figures 5 and 6 then the online test:

Picture:



Features:

- 1: Integrated high-speed microcomputer intelligent control chip, can be equipped with external LCD monitor with hands, automatic detection of computer controlled automatic shield handle motion control functions, can simultaneously track digital recording of computer data and handle mobile data control
- 2: The computer keeps track of the path, you can run once the computer processing of the data record-keeping process automatically repeats offline processing operation.
- 3: Manually move the processing to save recorded track record manually move the machine data and automatically reprocessed run manually move the path.
- 4: Manual data input processing path and enter the path to run automatically
- 5: You can automatically complete the XYZ axis or Z axis of the knife, without complicated computer software operation control
- 6: Max 5A stepper motor drive current, eight-speed adjustable.
- 7: Up to 16 segments, higher accuracy, run more smoothly.
- 8: Overload over-current over-temperature protection function, automatic semi-flow control, fully protect your computer and peripherals
- 9: Bipolar constant current chopper drive motor low-speed non-creeping phenomenon, noise, non-resonant region.
- 10: closed optical isolation, dual-stage signal processing, and fully protect your computers and devices.

Electrical properties (ambient temperature $T_j = 25\text{ }^\circ\text{C}$ when):

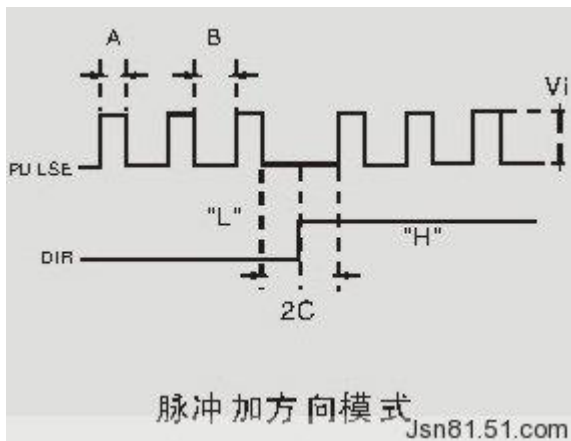
Input Power	220AC power supply
Output Current	Drive 4.5A (peak 5A)
Driven	Bipolar constant current PWM drive output.

approach	
Drive motor	57 * 78 stepper motors, two-phase 4 wire stepper motor)
Weight	About 45KG

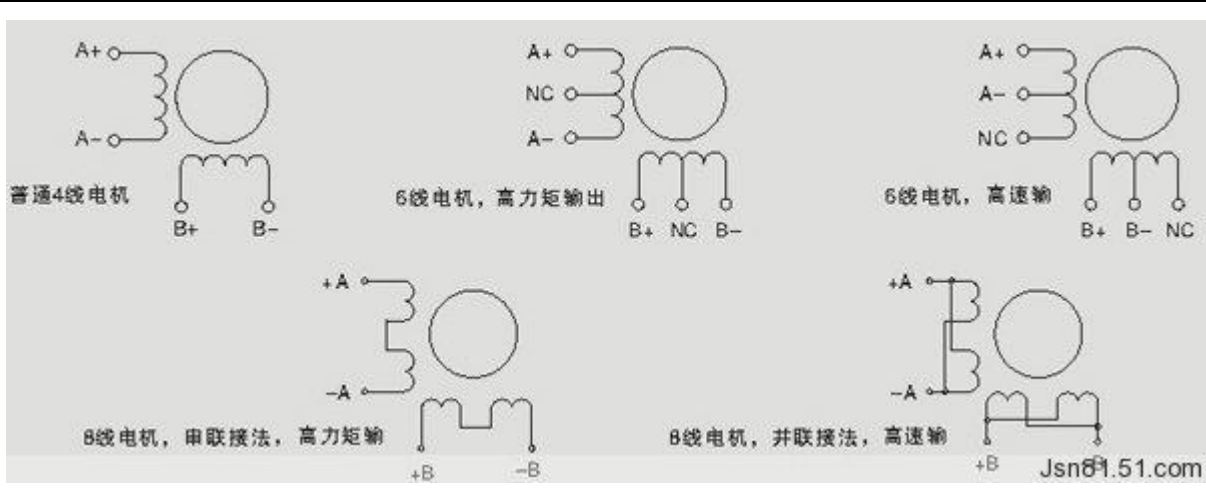
Microstep resolution table:

细分	1	2	3	电流	4	5	6
NG	ON	ON	ON	0.2A	ON	ON	ON
1	OFF	ON	ON	0.6A	OFF	ON	ON
1/2	ON	OFF	ON	1.2A	ON	OFF	ON
1/2	OFF	OFF	ON	1.8A	OFF	OFF	ON
1/4	ON	ON	OFF	2.5A	ON	ON	OFF
1/8	OFF	ON	OFF	3.3A	OFF	ON	OFF
1/16	ON	OFF	OFF	4.2A	ON	OFF	OFF
NG	OFF	OFF	OFF	5A	OFF	OFF	OFF

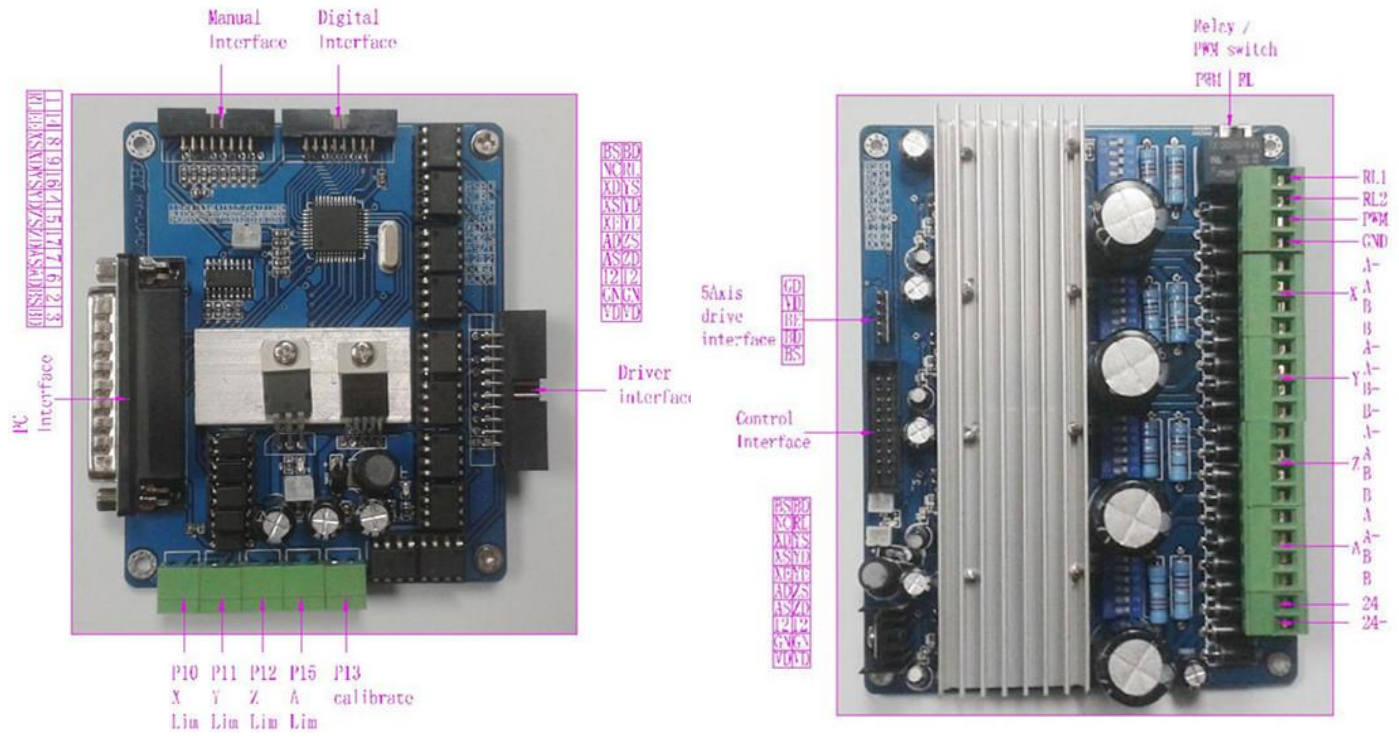
Signal waveform and timing:



Power output interface functions

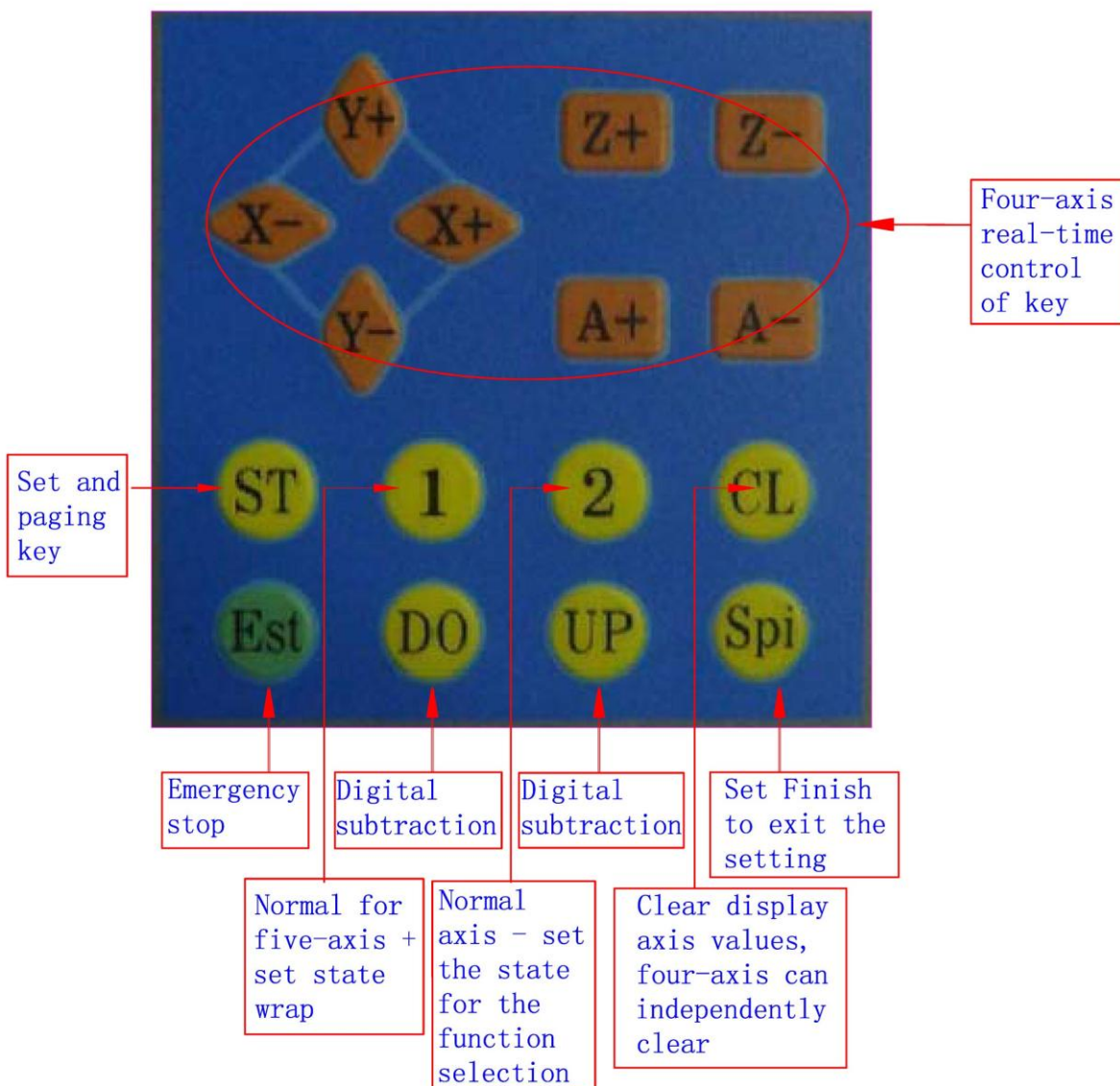
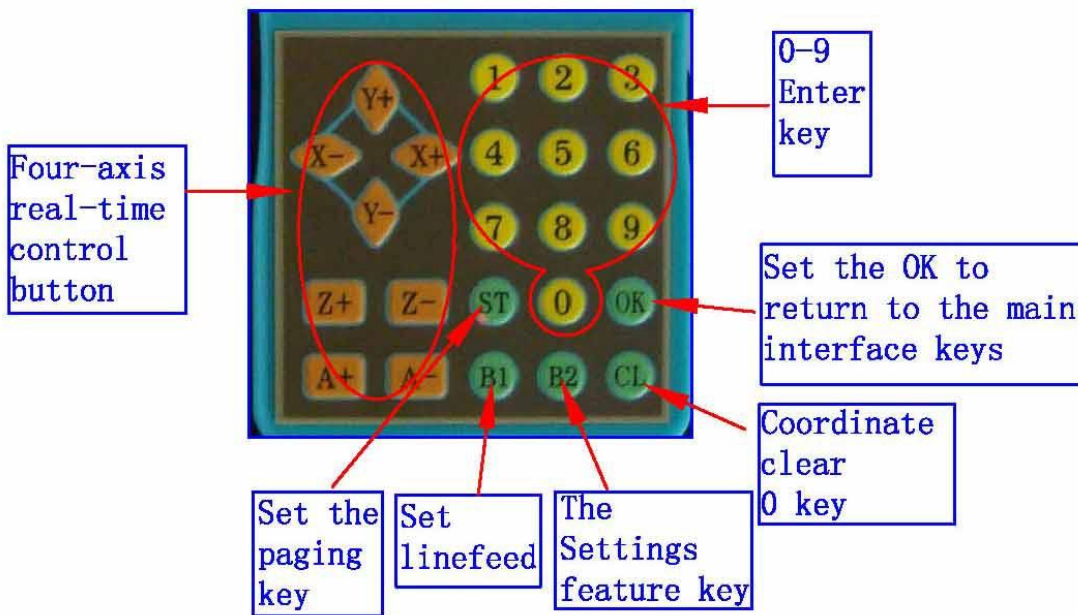


Breakdown of the interface labeled



Operating Instructions:

Operation button icon



- 1: Press the button to enter the lower handle ST setup menu, press the OK button to complete the settings return to the main interface work
- 2: Press the CL key handle shaft axis corresponding to 0, B1 replaced by a line, press the OK button to exit cleared
- 3: Coordinate axis real-time recording and mobile computers running the coordinates manually, the display is a computer operating data manually move data +

Main interface icons

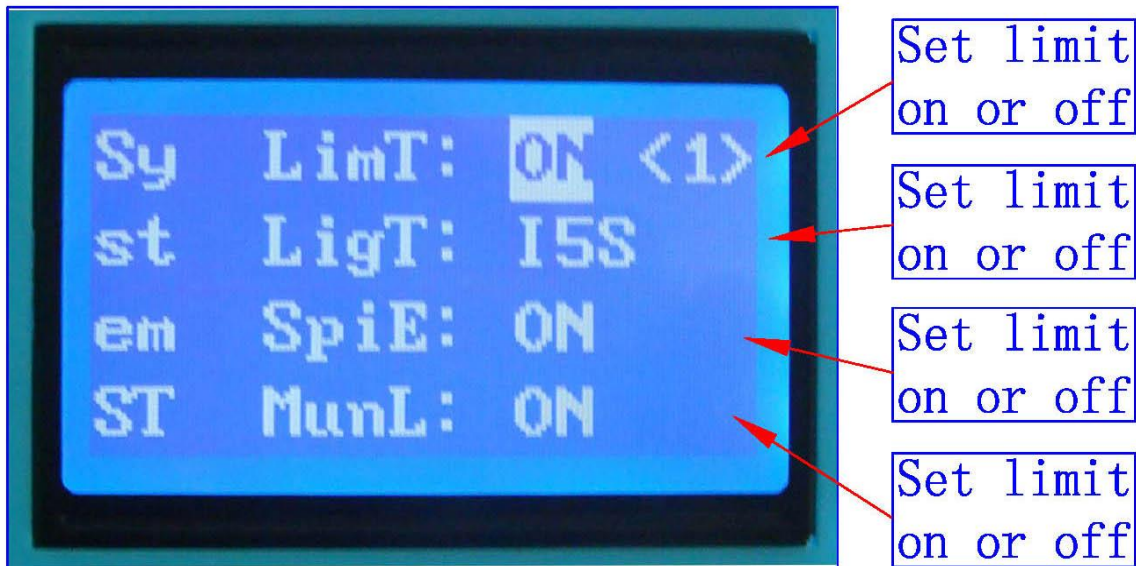


- 1: The coordinates of display range 9999.999/-9999.999
- 2: automatically records the computer running coordinates and manually move the coordinates
- 3: Automatic switch between computer and manual control
- 4: computer-controlled automatically shielded manual control functions, two seconds after the return to manual function

- 1: To ensure the accuracy of the knife, the knife need to check before mentioning the knife and tool diameter height parameters are set correctly,
- 2: to be confirmed on the knife wiring and limit switch wiring status is normal.

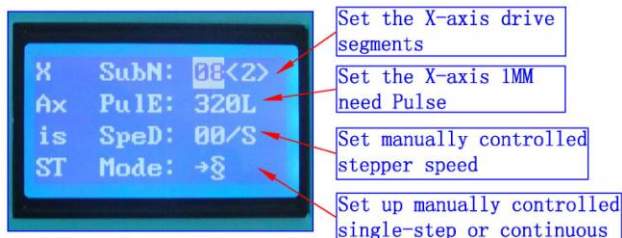
3: After confirming the OK button to enter B2 automatic tool operation, automatically stops when finished.

System Settings icon

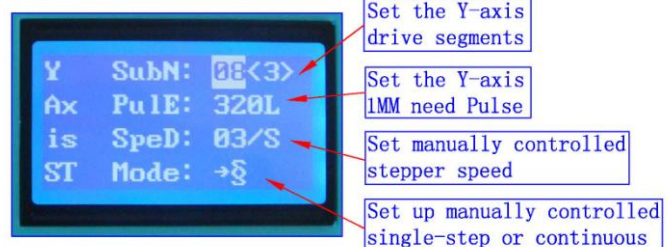


; All settings automatically saved permanently, until the next set update

X-axis parameter settings icon



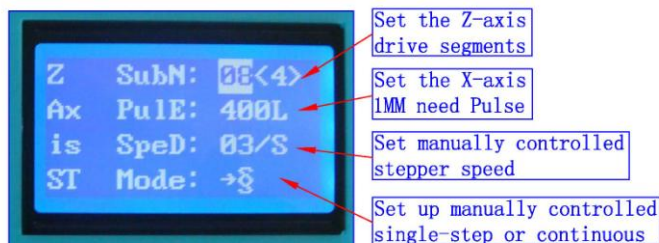
Y-axis parameter settings icon



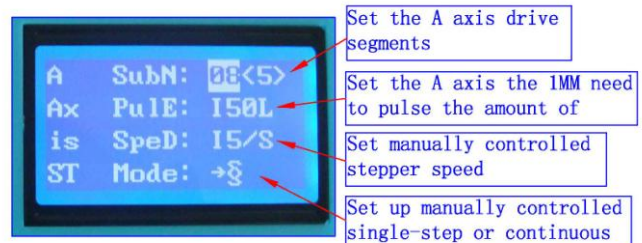
; All settings automatically saved permanently, until the next set update

; All settings automatically saved permanently, until the next set update

Z-axis parameter settings icon



A axis parameter settings icon



; All settings automatically saved permanently, until the next set update

; All settings automatically saved permanently, until the next set update

1: Press the button again to enter the lower handle ST setup menu, press the OK button to complete the settings return to the main interface

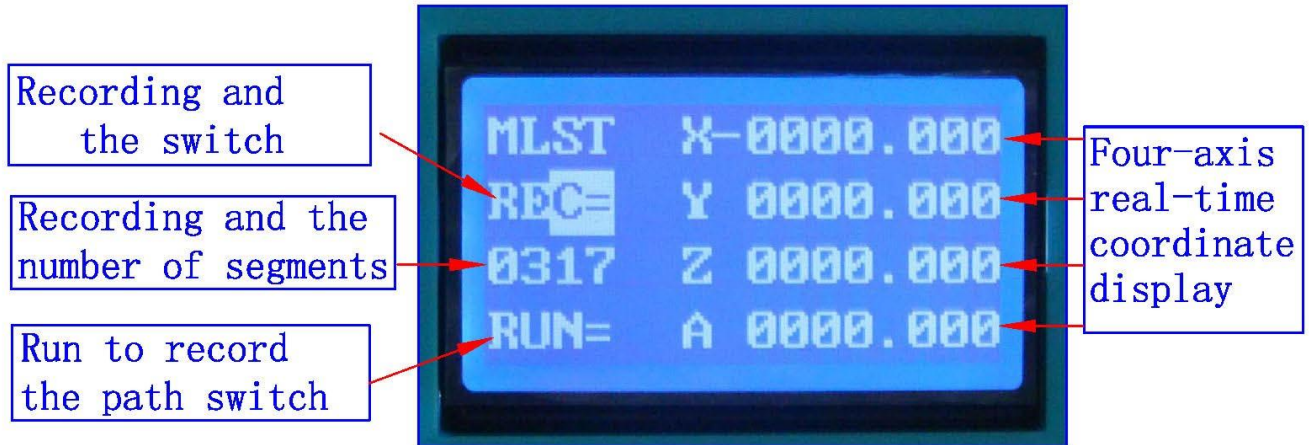
- 2: Press the button to move the handle downward to set B1,
 - 3: Press the button corresponding to highlight handle B2 set at the function selection
 - 4: Press the handle numeric keys to enter numeric parameter settings
-

Record of the computer processing path interface



- 1: The status display, press REC button to start the computer running B2 data records, and records will show the number of segments, the largest segment recorded 1800, B2 press the button to stop.
 - 2: B1 key wrap to display state RUN, press the key to start the run B2 run record keeping computer data, press the stop button B2
 - 3: Press ST key to enter the lower menu setting
-
-

Manual programming interface



1: The coordinates of display range 0-9999.999

2: supports both digital input manually coordinate programming and manual actually moving coordinate programming

3: recorded 1800 segment

4: (To increase the volume can be customized plug-U disk recording the number of segments, unlimited recording)

1: Press enter to run and stop switch B2, B1 wrap by switching

2: In the recording, press REC axis real-time control keys to move the machine coordinates, press B2 to save real-axis coordinate (you can only change one axis data B2 button again to save), press the CL key to manually enter the corresponding axis numeric keypad enter, then press B2 to save real-axis coordinate (you can only change a shaft key to save data and then B2), B1 after recording the OK button to switch to the display RUN,

3: Press the OK button to exit back to the main interface

=====
Before the test drive, please note the following

1, the first test machine to 12V voltage test machine, 42 stepper please 12-16V/DC power, 57 stepper please use 16-24V/DC power, 86 power stepper

election 24-36V/DC

2, determine the power and the stepping motor current (model)

3, to determine the stepper motor wiring

Two "Each pin definitions

1» Parallel control is defined as follows:

PIN14	PIN1	PIN3	PIN2	PIN1	PIN5	PIN4	PIN1	PIN7	PIN6	PIN1	PIN9	PIN8	PIN16
Relays	X Allow	X Direct ion	X Pulse	Y Allow	Y Direct ion	Y Allow	Z Allow	Z Direct ion	Z Allow	A Allow	A Direct ion	A Allow	0-10V PWM

3» Limit 1 ~ PIN9 defined as follows (figures marked by internal interfaces defined)

X-axis limit	Y-axis limit	Emergency Stop	Z-axis limit	Alternate input	DC-
Interface P1	Interface P2	Interface P3	Interface P4	Interface P5	Interface P6-P9
Corresponding computer P12	Corresponding computer P13	Corresponding computer P15	Corresponding computer P11	Corresponding computer P10	GND

4» Output interface definition (On a picture under a 22)

P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22
Positive	Ground	C A+	C A-	C B+	C B-	ZA +	ZA -	ZB +	ZB -	YA +	YA -	Y B+	Y B-	X A+	X A-	X B+	X B-	M O+	G N D	G N D	M O-

Three "MACH software to use

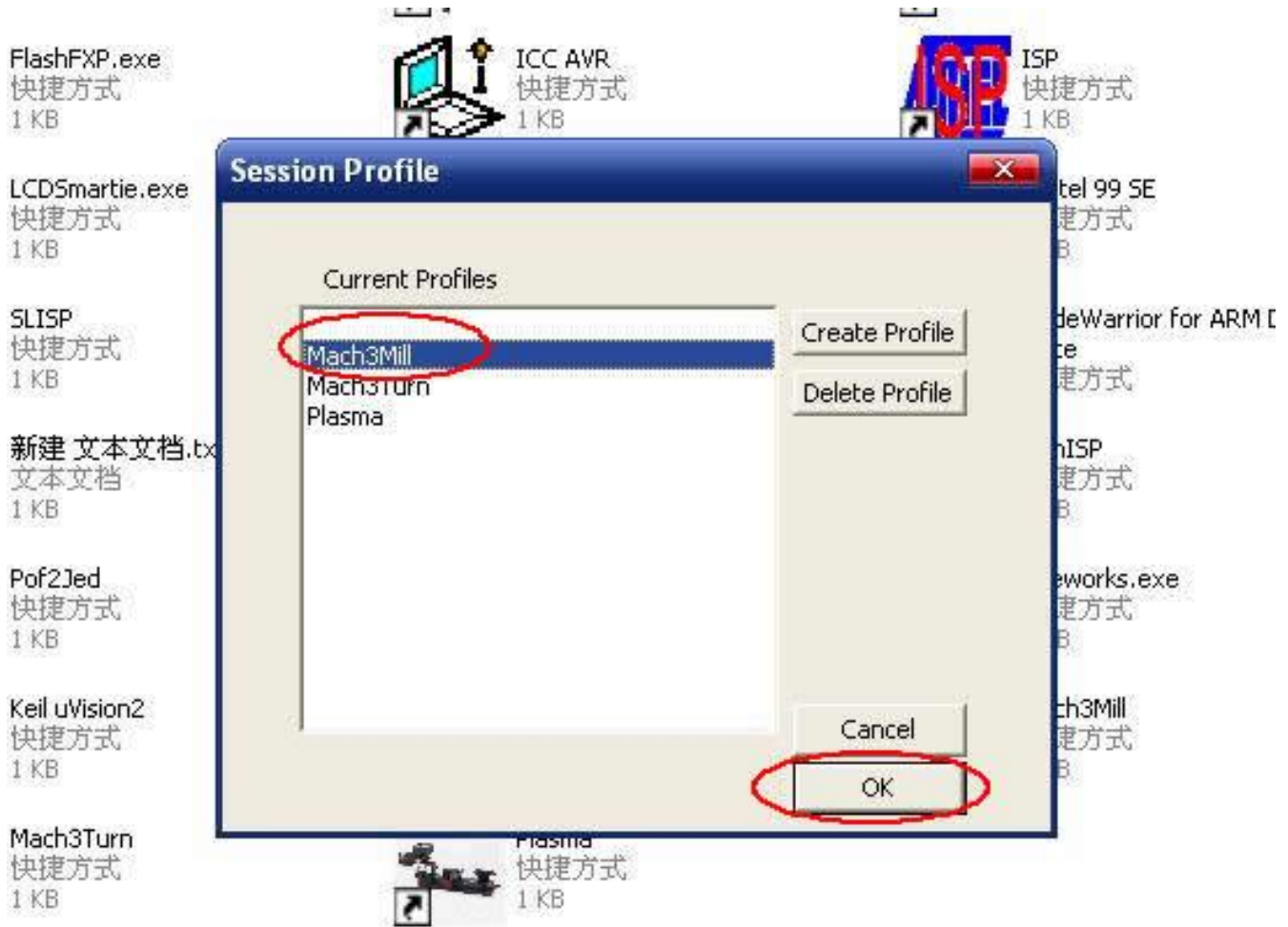


Figure 1

如图 1，打开 MACH3 软件，现在 mach3MILL 然后选择 OK

Figure 2

MACH3 open interface shown in Figure 2, a common action buttons above, where we configure MACH software.

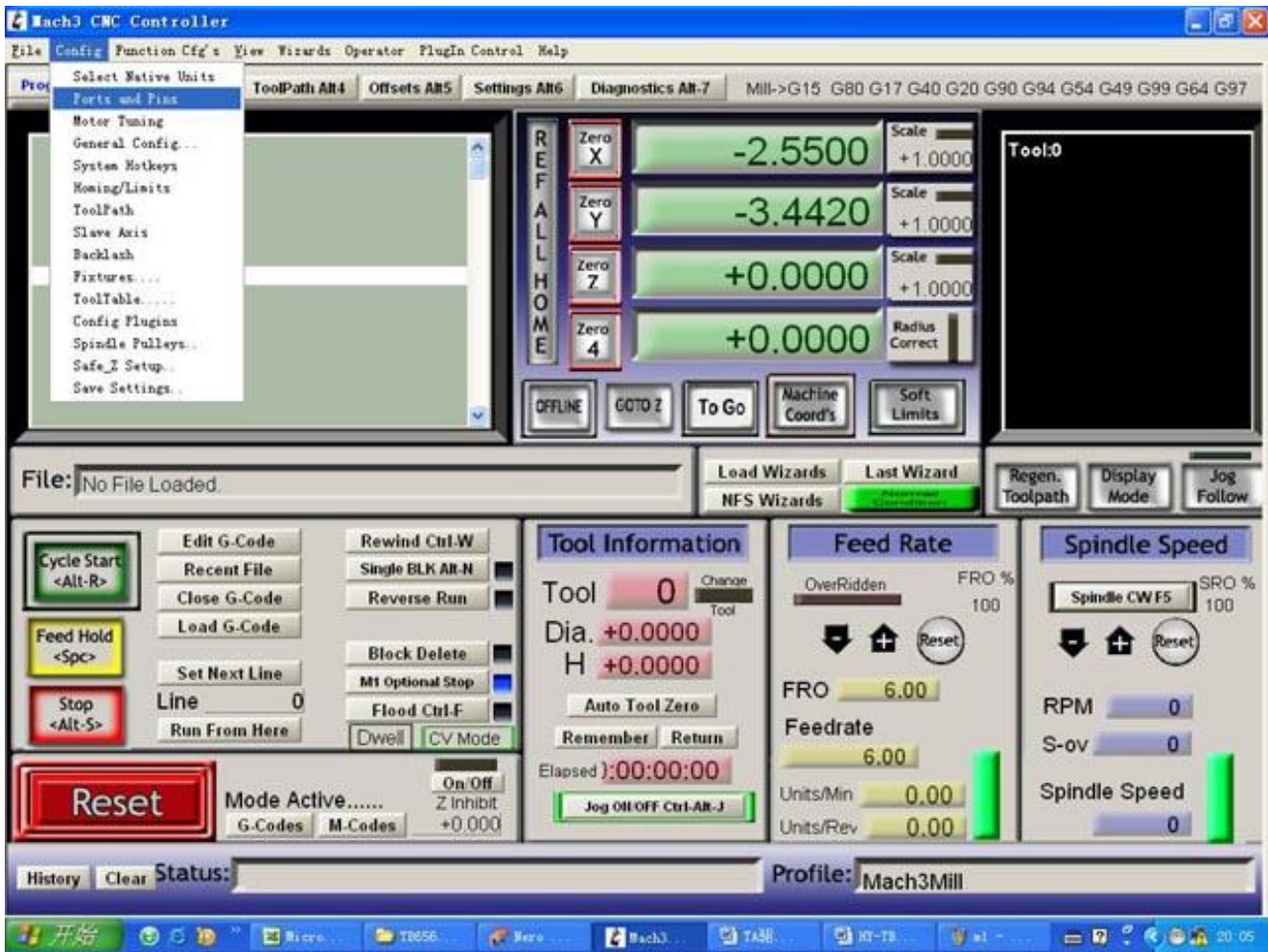


Figure3

Figure 3, open PORT & PIN menu config menu under

Figure 4

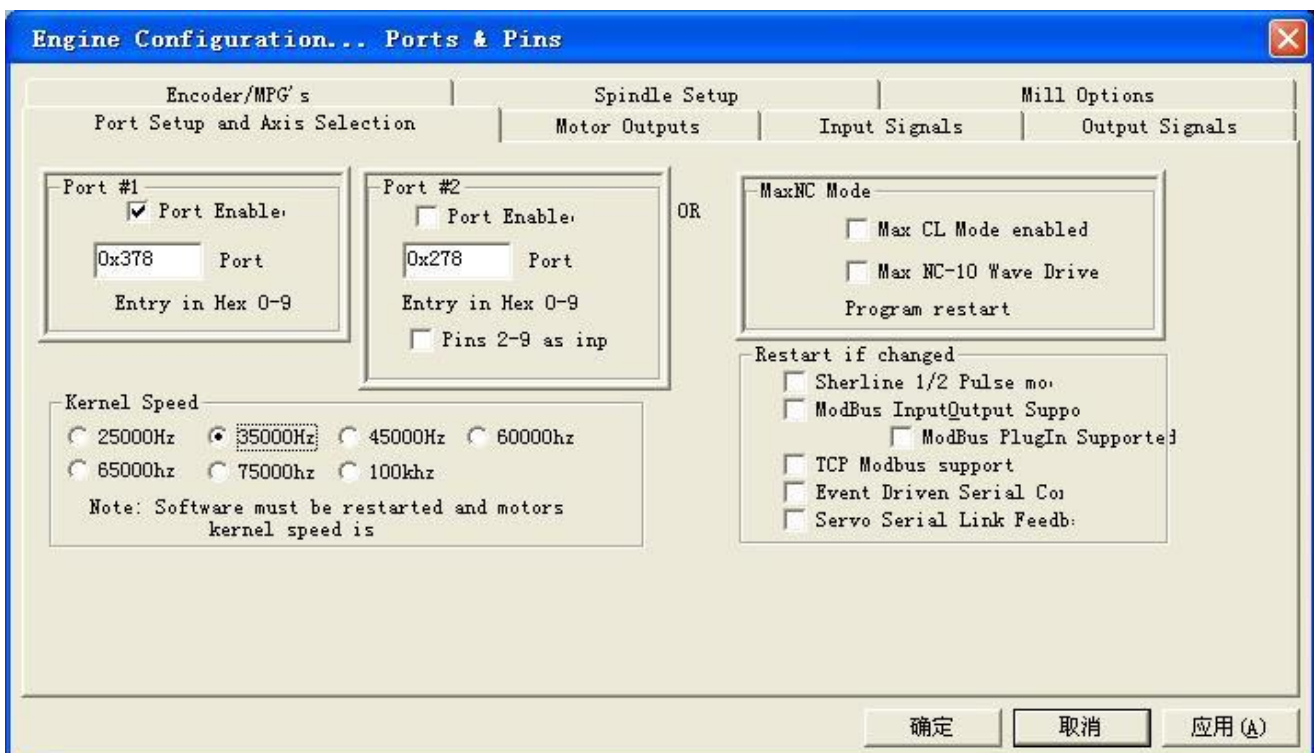


Figure 4

Circle where a fundamental frequency can be set on the set, this parameter affects the motor rotation speed. After you set the ring where 2 feet define the configuration shown in Figure 5

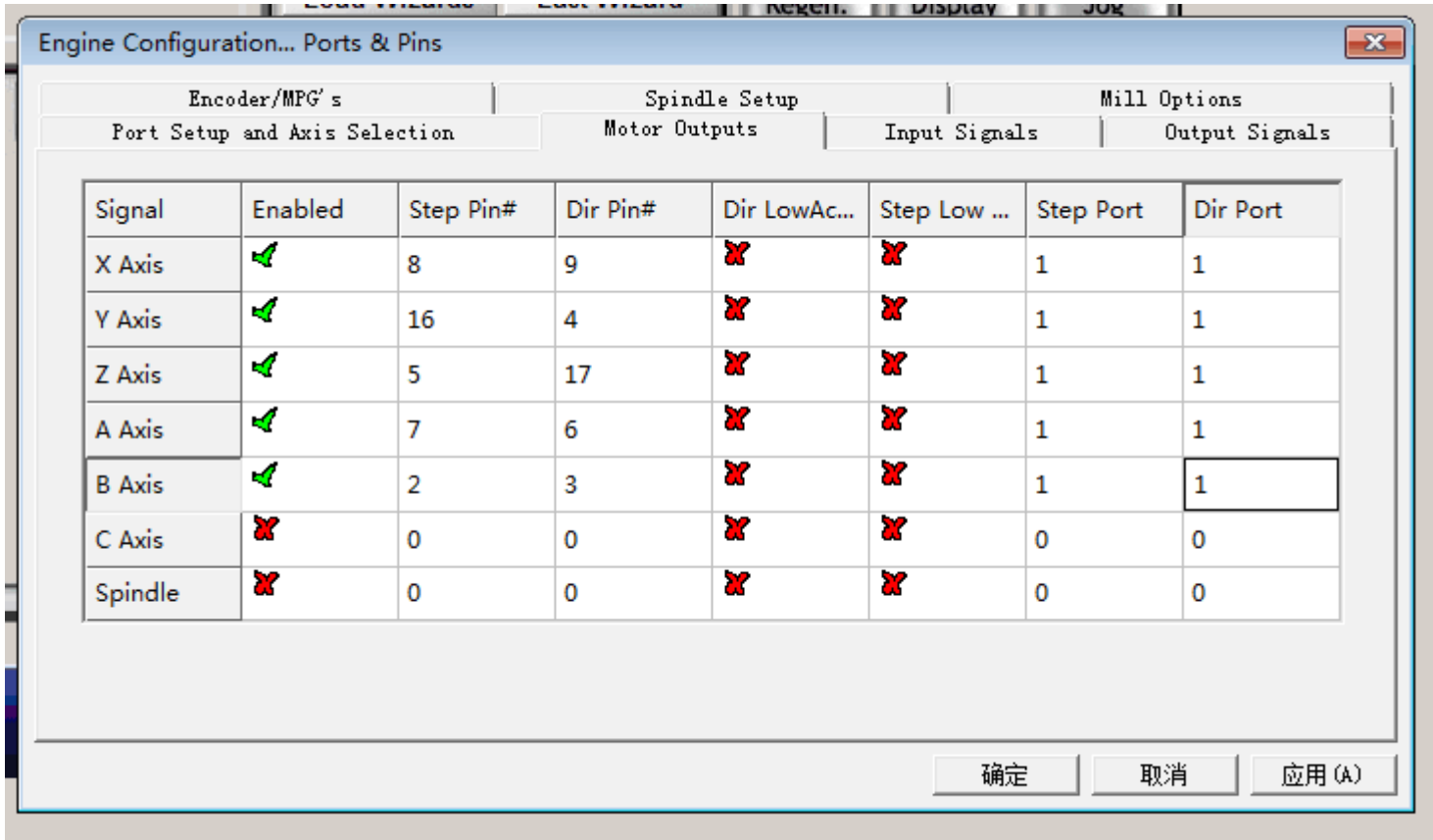


Figure 5

According to the definition of the board parallel port, modify the software settings according to the schematic diagram circle defined.

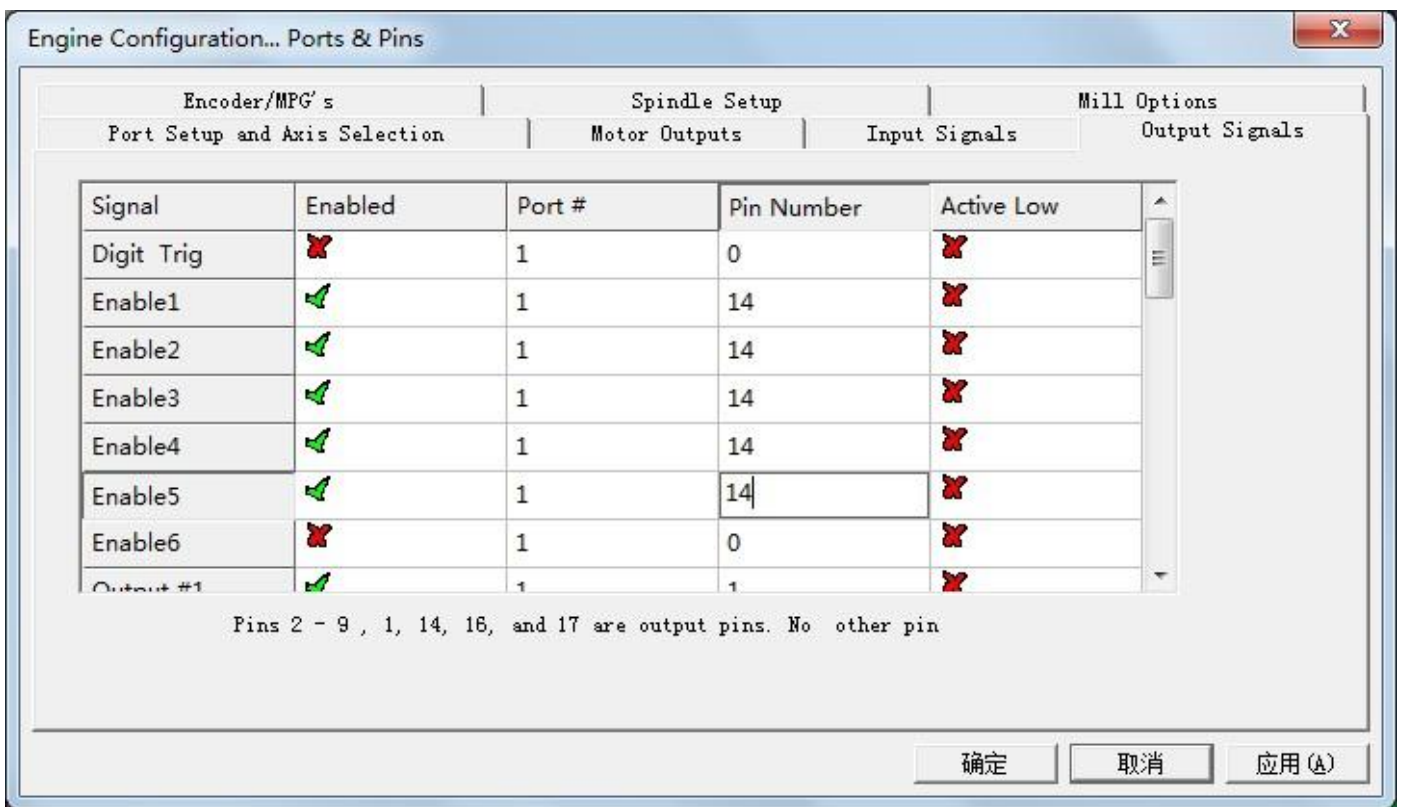
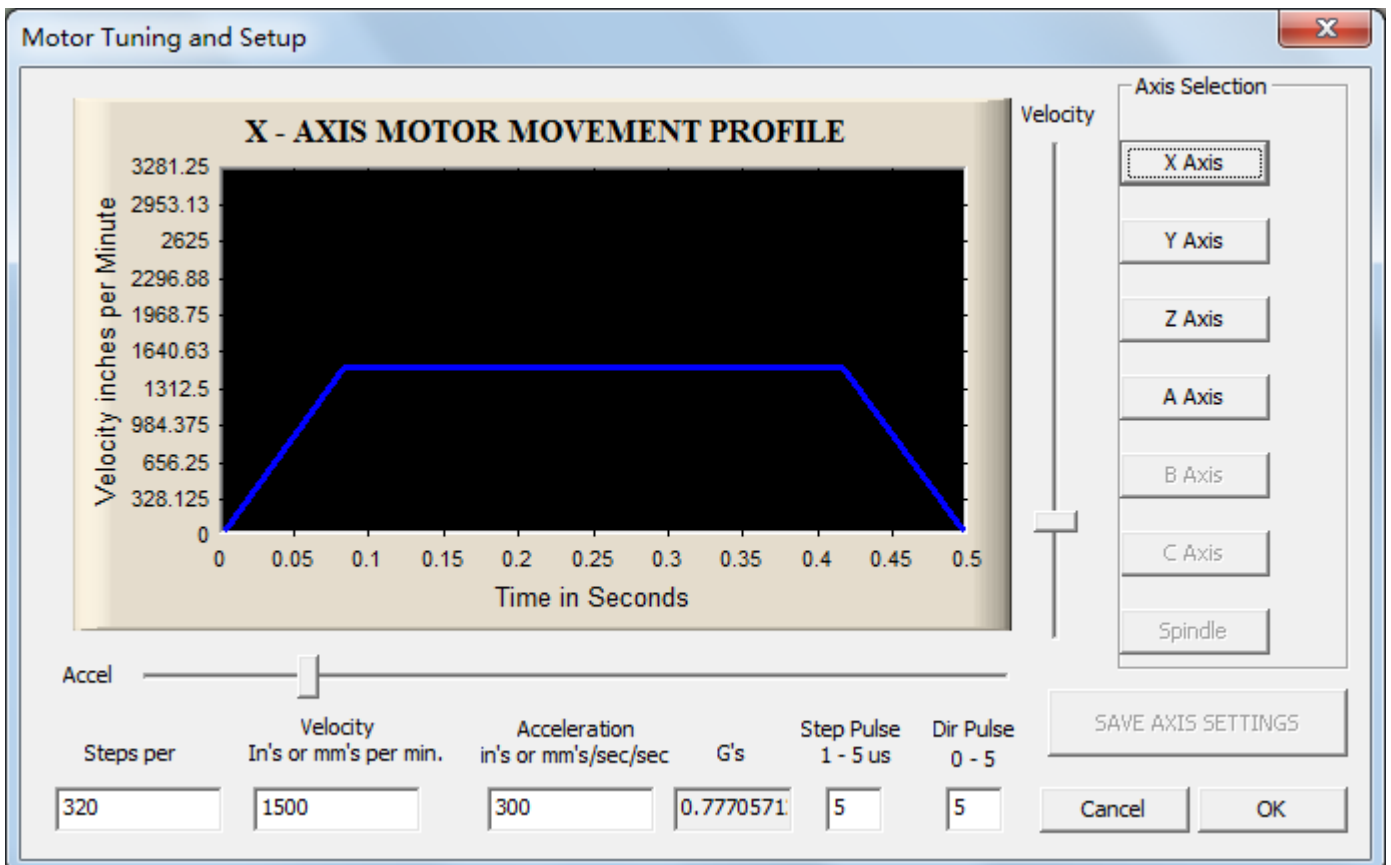
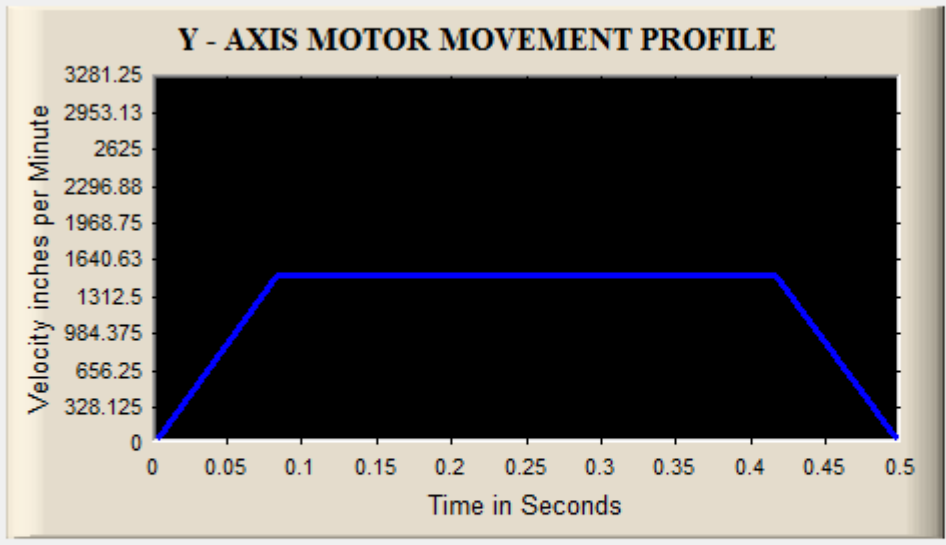


Figure 6

Then select the output signals column, as shown in Figure 6, according to insiders settings, set the appropriate items.



Motor Tuning and Setup



Axis Selection

Velocity

X Axis

Y Axis

Z Axis

A Axis

B Axis

C Axis

Spindle

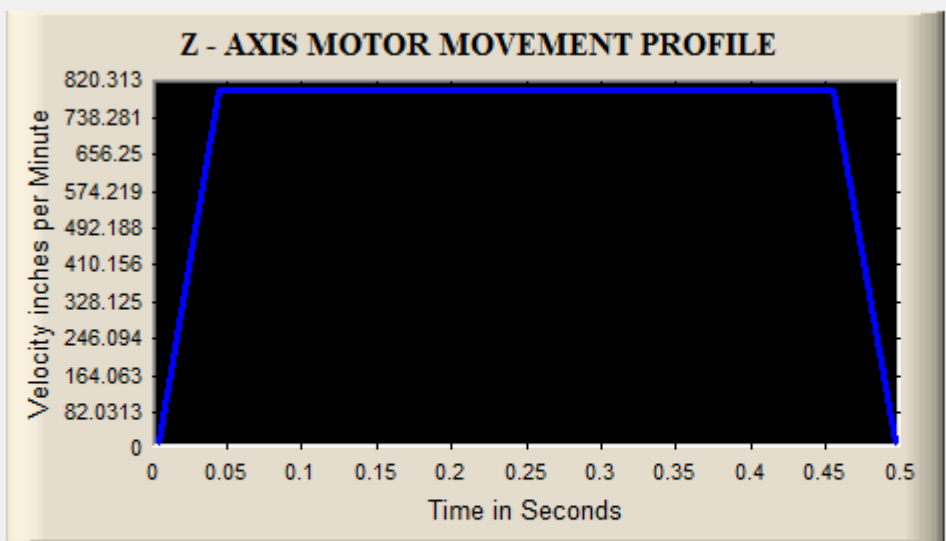
Accel

Steps per	Velocity In's or mm's per min.	Acceleration in's or mm's/sec/sec	G's	Step Pulse 1 - 5 us	Dir Pulse 0 - 5
320	1500	300	0.7770571	5	5

SAVE AXIS SETTINGS

Cancel OK

Motor Tuning and Setup



Axis Selection

Velocity

X Axis

Y Axis

Z Axis

A Axis

B Axis

C Axis

Spindle

Accel

Steps per	Velocity In's or mm's per min.	Acceleration in's or mm's/sec/sec	G's	Step Pulse 1 - 5 us	Dir Pulse 0 - 5
320	799.8	300	0.7770571	5	5

SAVE AXIS SETTINGS

Cancel OK

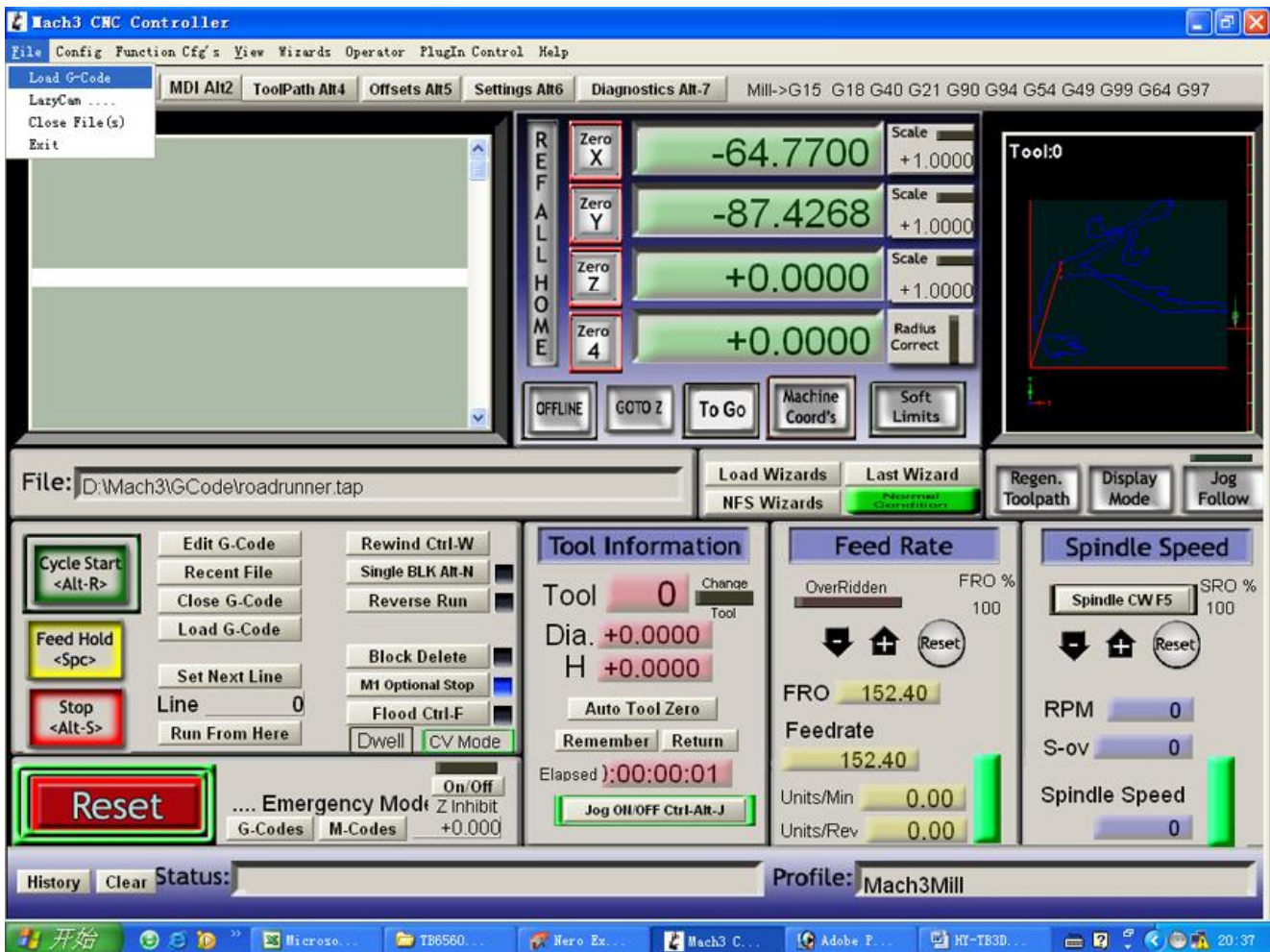
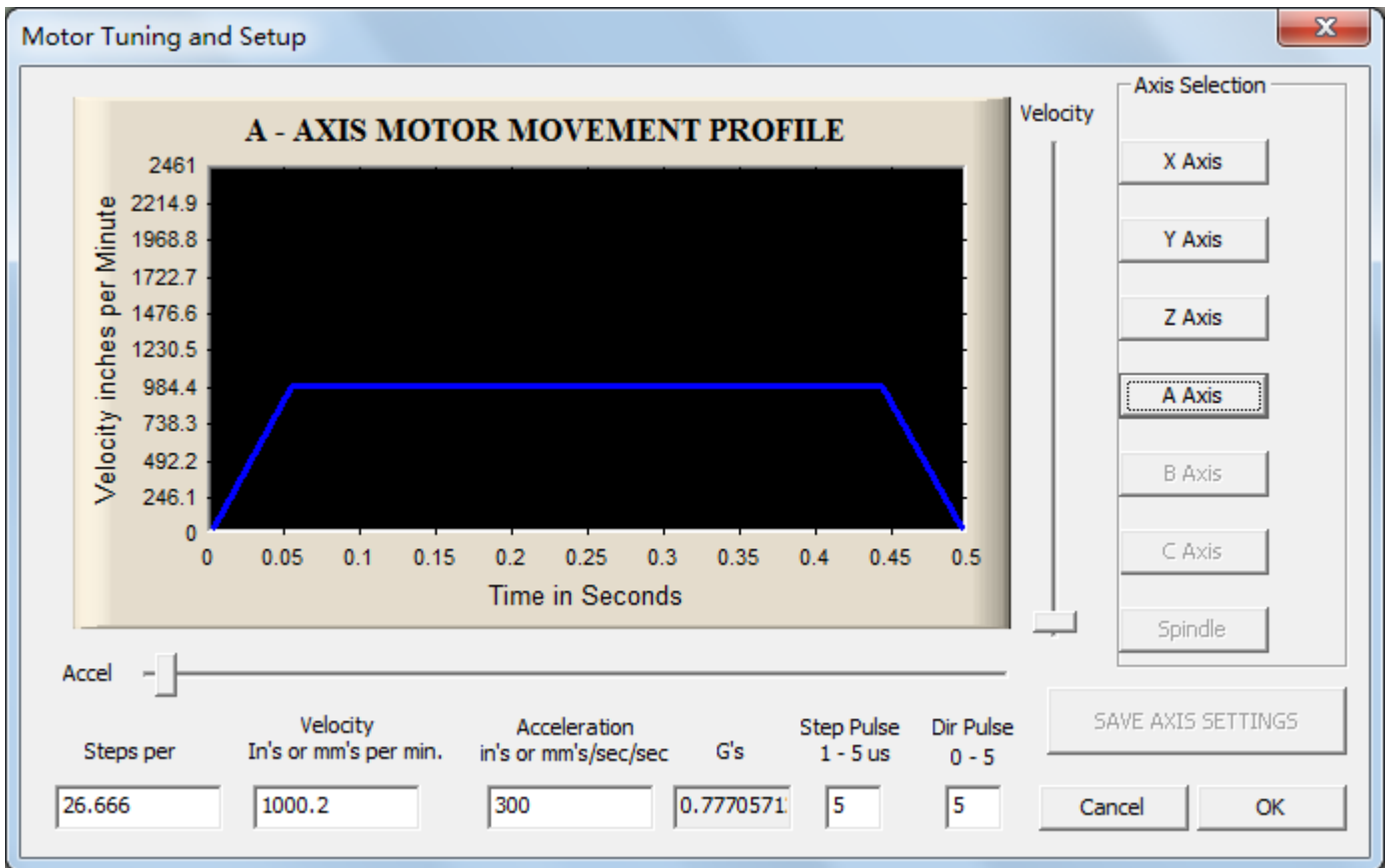


Figure 7

After all the settings ok, you can open the G code needs to run in Figure 8

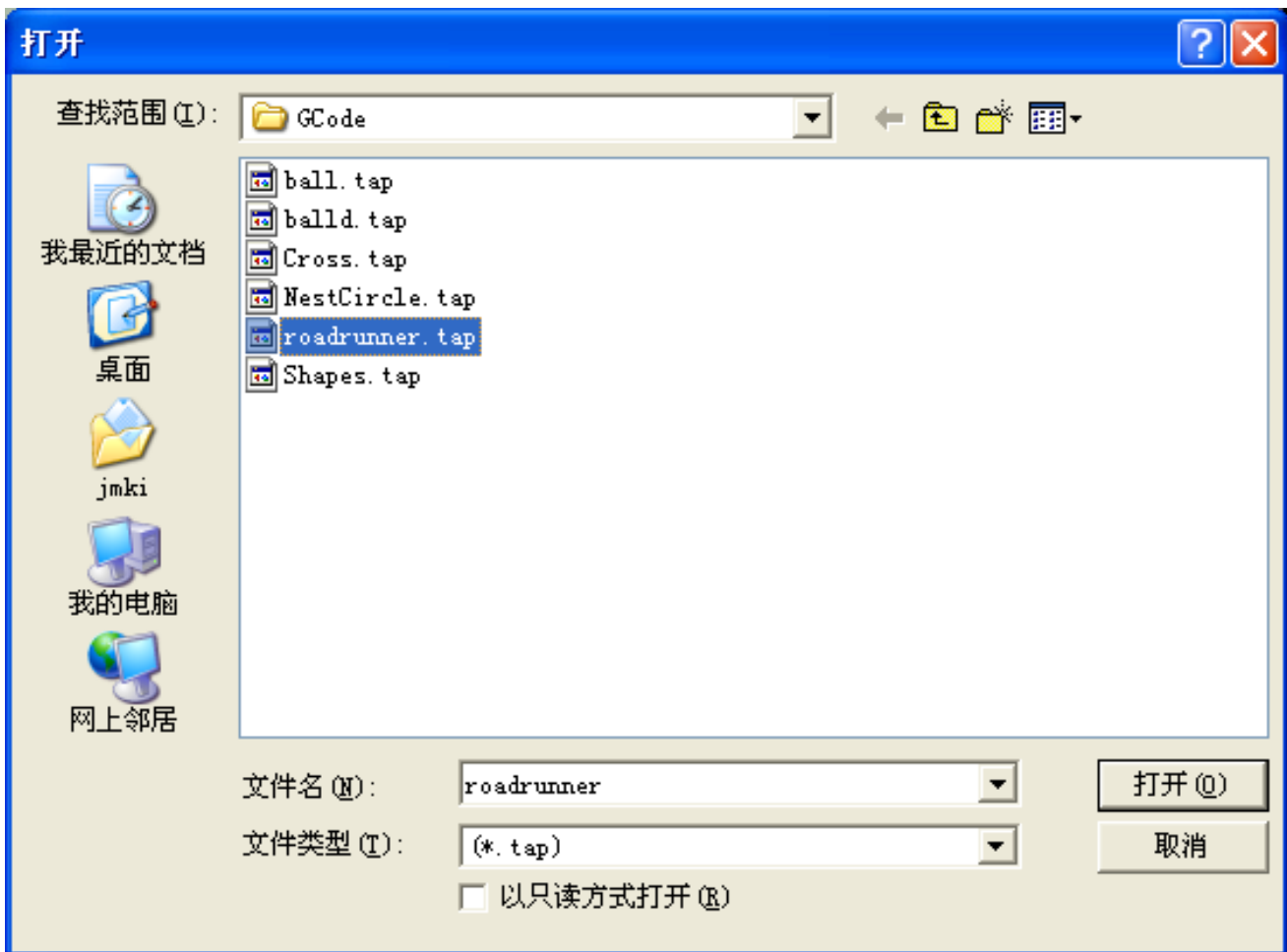


Figure 8

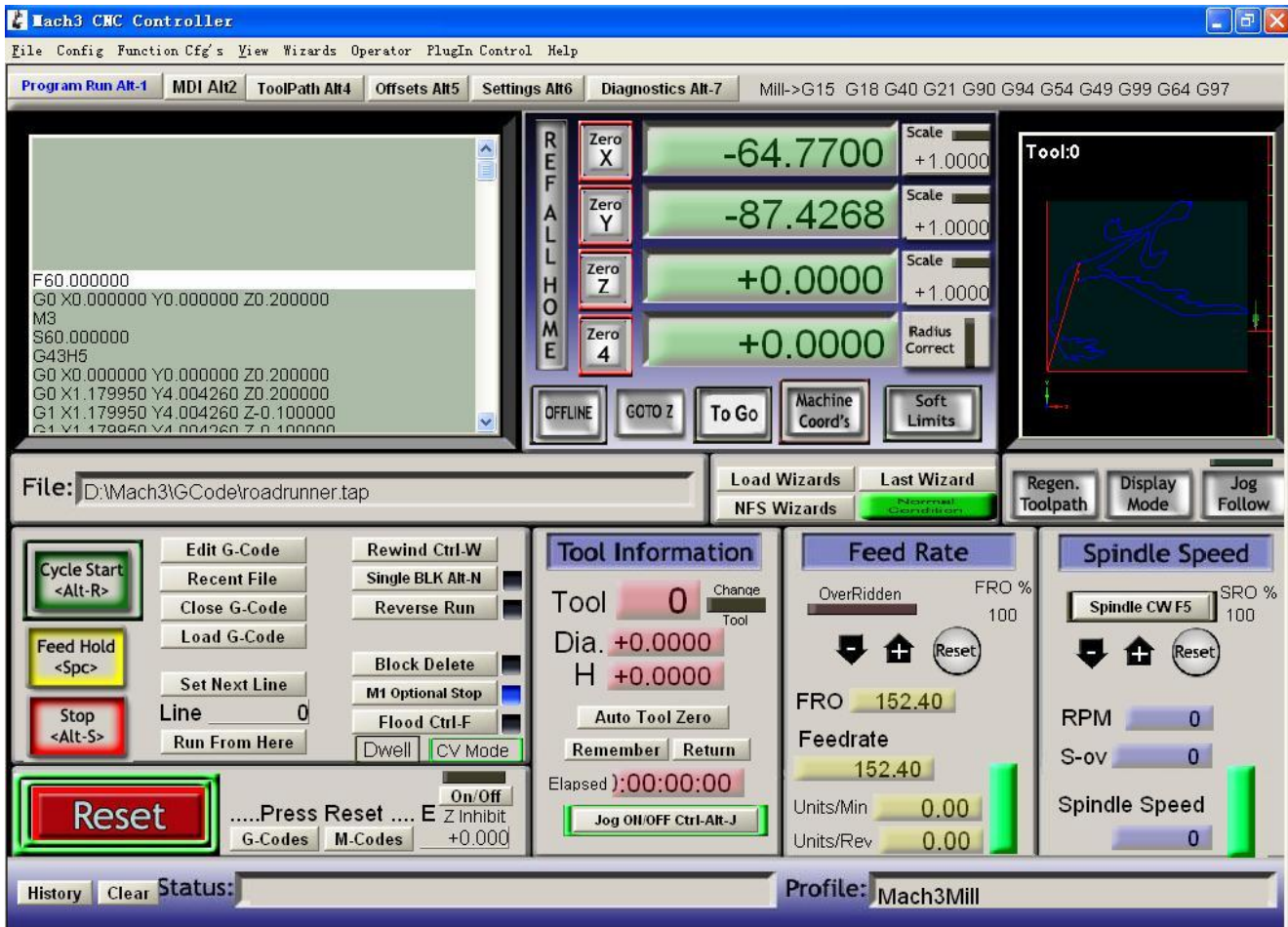


Figure 9

After opening the G code, you can see the red RESET flashing, you can use the RESET mouse click to make stops flashing, then you can run CYCLESTART position by lap two.