HY-TB4DV-T professional-type four-axis drive board manual

Product Link:

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Features: Features
1: integrated high-speed microcomputer intelligent control chip, with plug-in LCD display and hand, automatically detect the computer to automatically control the movement of the shield handle control functions, digital can simultaneously track record computer data and handle control mobile data
2: the path of the computer tracking records, time records can be run in the computer processing to save the processed data off-line automatic repeat the processing run
3: Manually move the processing and record keeping, traceability records manually move the machine data, and automatically repeat the process run manually move the path.
4: manual data input processing path, and run automatically enter the path .
5: The driver XYZ-axis or Z axis of the knife can be done automatically, without complex computer software operation
6: up to 5A stepper motor drive current, adjustable.

7: up to 16 segments, more accurate, run more smoothly.

8: overload automatic protection function of the flow through the warm, protect your computer and peripherals .

9: bipolar constant-current chopper drive, low speed creeping phenomenon, noise, non-resonant region.

10: a closed optical isolation, two-stage signal processing, to fully protect your computer and equipment.

11:1 the road 0-10V/PWM governor signal output .

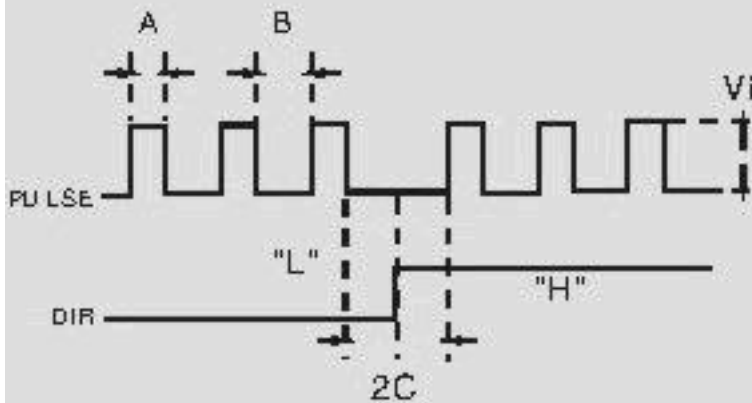12: Rd input control, you can set the limit stop, which is divided into the knife.

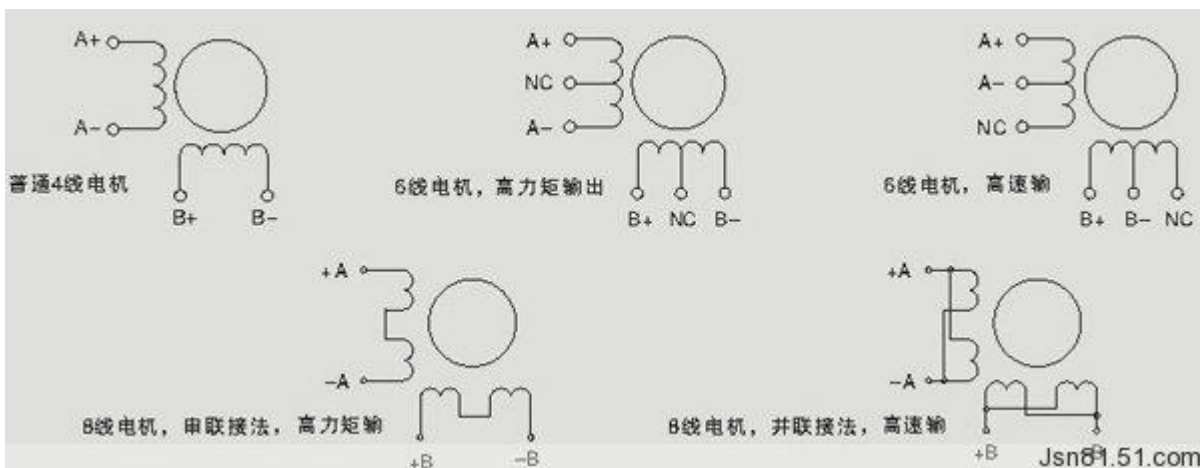| Electrical properties (ambient temperature Tj = 25 ℃):	
Input power	12 – 48V DC power supply
Output current	4.5A (peak 5A)
Driven approach	Bipolar constant-current PWM drive output
The drive motor	42,57,86 stepper motor, two-phase -4 phase (4-wire, 6 wire, 8 wire stepper motor)
Weight	About 300 g.
Breakdown of 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

普通4线电机

6线电机，高力矩输出

6线电机，高速输

8线电机，串联接法，高力矩输

8线电机，并联接法，高速输

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Corresponding axis work lights

12V regulator system

5V regulator system

0-10V/PWM governor interface

5 input interface, you can set the limit emergency stop sub-medium

Computer interface

Digital explicit interface

Digital explicit interface

Manual interface

6N137 high-speed optoelectronic

Relay

12-48VDC power supply

2-phase, four-phase, four-wire line eight, six-wire stepper motor interface

Spindle interface

0-10V/PWM governor interface

GND 6 7 8 9

1=P15
2=P10
3=P11
4=P12
5=P13

or

or

or

or

DC+
DC−

XB−
XB+
XA−
XA+

YB−
YB+
YA−
YA+

ZB−
ZB+
ZA−
ZA+

CB−
CB+
CA−
CA+

MON

MIN

MLST X-0000.000
REC   Y 0000.000
0317 Z 0000.000
RUN= A 0000.000

Instructions:

Operation button icon

Four-axis real-time control button

0-9 Enter key

Set the OK to return to the main interface keys

Coordinate clear 0 key

Set the paging key | Set linefeed | The Settings feature key

Four-axis real-time control of key

Set and paging key

Emergency stop | Digital subtraction | Digital subtraction | Set Finish to exit the setting

Normal for five-axis + set state wrap | Normal axis - set the state for the function selection | Clear display axis values, four-axis can independently clear

Main interface icons

Under normal manual switch

Limit switch under normal conditions.

Four-axis real-time coordinate display

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: ST button to press the handle into the lower-level setup menu, the setup is complete press the OK button to return to the main work interface

2: Press the corresponding axis of the handle CL button four axis clear 0, according to the B1 replaced a line, press the OK button to exit the clear 0

3: The four-axis real-time recording computer running coordinates and manually move the coordinate value of the computer running data + manually move data

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Automatic tool to set the icon

Or	StaT:	ONF<A>	← Start and stop the knife
ig	RaiE:	02MM	← Set the Z-axis put a knife height normalized 0
in	ProF:	X*Y Z*	← Set the need for tool axis
ST	DiaR:	00MM	← Set the diameter of the machining tool

1: all settings automatic permanent preservation until the next set of updates
2: You can set the radius, put a knife height parameters
3: The driver auto-complete the knife, without the complexity of computer software operation, convenient tool change school knife, boot knife, batch processing adequately protected on the knife and other processed products correctly

1: In order to ensure the accuracy of the knife, the knife before check put a knife to the height of the parameters of the tool diameter is set correctly,

2: the need to make sure the knife instrument wiring and limit switch wiring status is normal.

3: B2 keys and press to confirm OK to enter the automatic tool operation and automatically stop after the completion of。

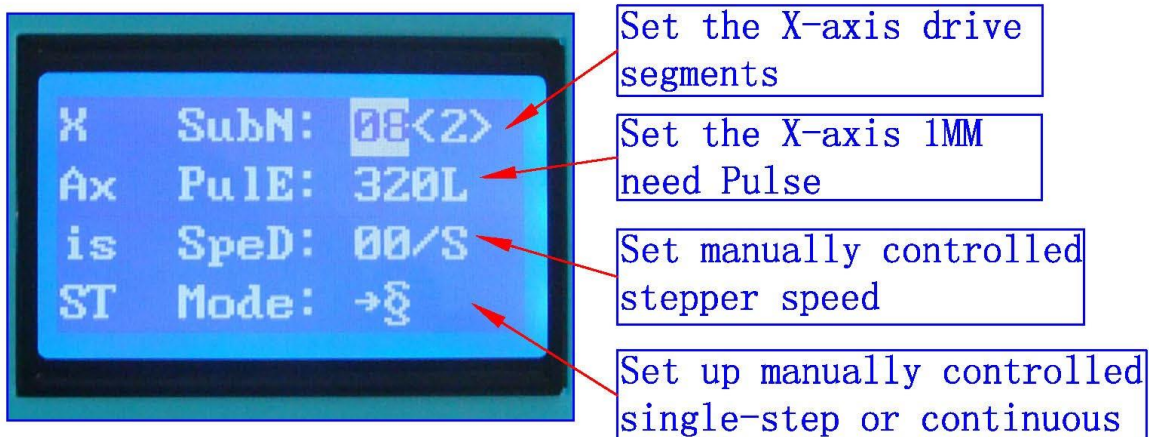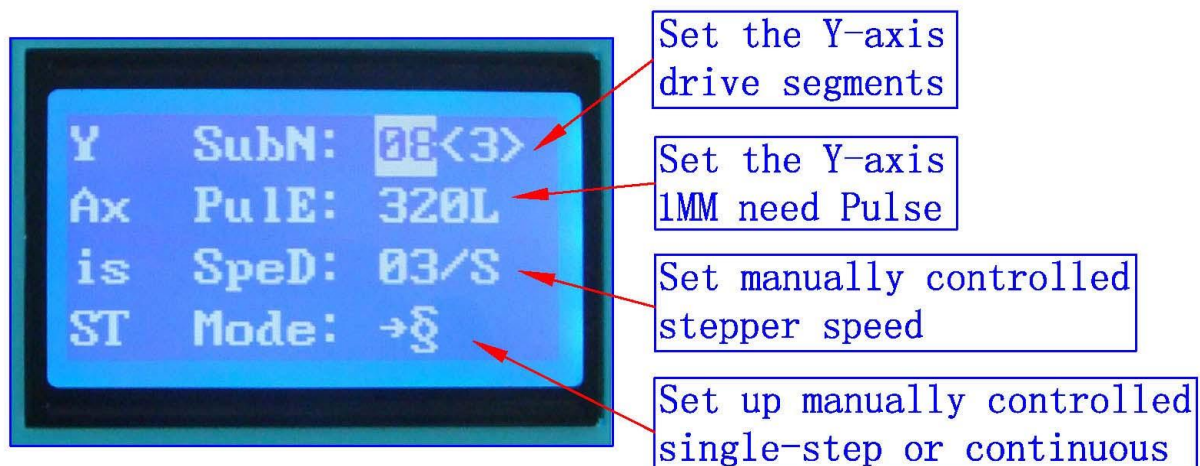4: Press the keyboard (A-) exit status of the school knife

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System Settings icon

		Set limit on or off
Sy	LimT: ON <1>	Set limit on or off
st	LigT: I5S	Set limit on or off
em	SpiE: ON	Set limit on or off
ST	MunL: ON	Set limit on or off

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

X-axis parameter settings icon

X	SubN: 08<2>	Set the X-axis drive segments
Ax	PulE: 320L	Set the X-axis 1MM need Pulse
is	SpeD: 00/S	Set manually controlled stepper speed
ST	Mode: →§	Set up manually controlled single-step or continuous

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

;

Y-axis parameter settings icon

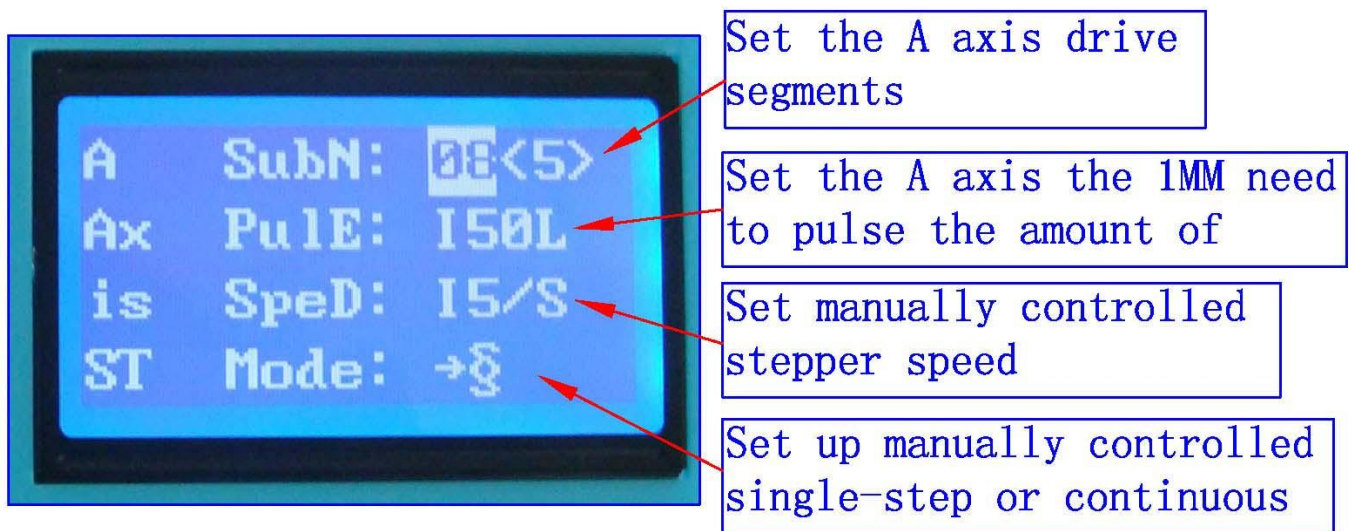|		
Y	SubN: 08<3>	Set the Y-axis drive segments
Ax	PulE: 320L	Set the Y-axis 1MM need Pulse
is	SpeD: 03/S	Set manually controlled stepper speed
ST	Mode: →§	Set up manually controlled single-step or continuous

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

Z-axis parameter settings icon

Z	SubN:	08<4>
Ax	PulE:	400L
is	SpeD:	03/S
ST	Mode:	→§

- Set the Z-axis drive segments
- Set the X-axis 1MM need Pulse
- Set manually controlled stepper speed
- Set up manually controlled single-step or continuous
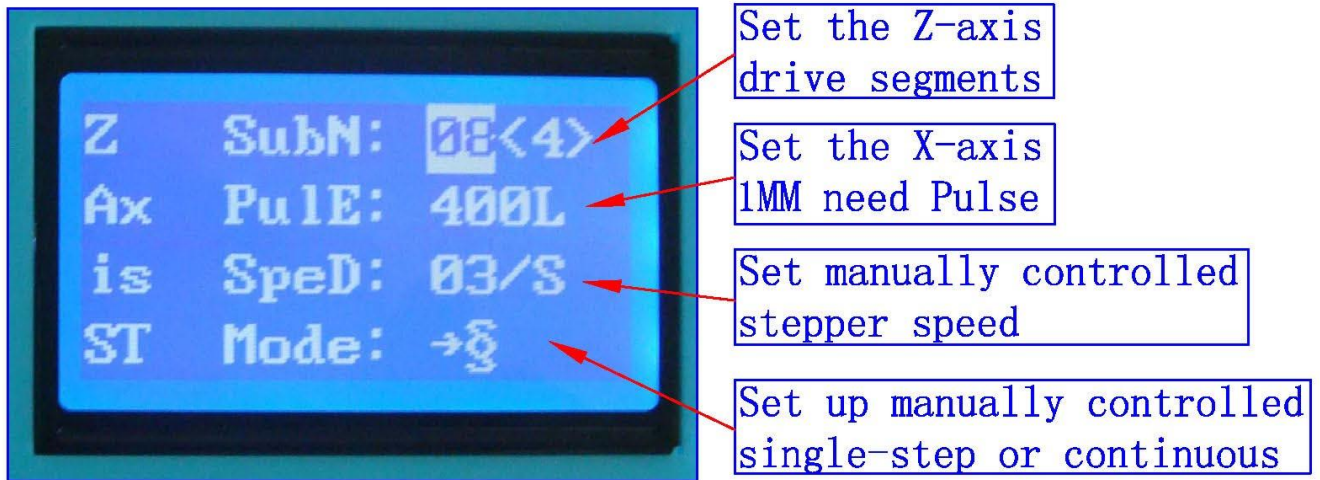
; All settings automatically saved permanently, until the next set update

A axis parameter settings icon

A	SubN:	08<5>
Ax	PulE:	150L
is	SpeD:	15/S
ST	Mode:	→§

- Set the A axis drive segments
- Set the A axis the 1MM need to pulse the amount of
- Set manually controlled stepper speed
- Set up manually controlled single-step or continuous

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

1: ST button press the handle into the lower settings menu, the setup is complete press the OK button to return to the main interface of

2: shift downstream handle B1 button settings,

3: handle B2 button corresponding anti-white set at function selection

4: input handles digital keys to set the digital parameters

The following three functions for the professional version of the product features

Record of the computer processing path interface

1: The coordinates of display range 0-9999.999
2: automatically records the computer running data automatically permanent preservation, to to be updated before the next recording
3: recorded 1800 segment
4: (To increase the volume can be customized plug-U disk recording the number of segments, unlimited recording)

1: display REC state B2 key to start the computer operating data record will show a record number of segments, the largest record segment 1800, then B2 button to stop.

2: B1 keys wrap to display the status RUN, then B2 key start run record keeping, computer operation data, and then the B2 key stop

3: Press the ST button to enter the lower menu setting

Manual programming interface

Recording and the switch

Recording and the number of segments

Run to record the path switch

Four-axis real-time coordinate display

Display shows: MLST X-0000.000 / REC= Y 0000.000 / 0317 Z 0000.000 / RUN= A 0000.000

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: B2 enter the run and stop the switch B1 wrap the switch

2: REC recording, press the four-axis real-time control keys to move the machine coordinates (each can only change a-axis data and then B2 key to save) save the coordinates of the real-time axis, according to the B2 key numeric keypad press the CL key to manually enter the appropriate axisinput, then B2 key to save the coordinates of the real-time axis (you can only change the axis of data B2 button to save), press B1 button to switch the recording OK to display the RUN

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

Before the test machine, please note the following

1,A test machine first to 12V voltage test machine, 42-step,

please with 12-16V/DC power 57 stepper choose 16-24V/DC power, 86 stepper election 24-36V/DC power

2,the stepper motor power and current (model)

3, to determine the wiring of the stepper motor

二》 The pin definitions

1》Parallel port control is defined as follows:

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

2》Limit 1 ~ PIN9 defined as follows (figures defined inside the interface marked)

X-axis limit InterfaceP1	Y-axis limit InterfaceP2	Emergency stop Interface P3	Z-axis limit Interface P4	Alternative input Interface P5	DC- Interface P6-P9
Thecorresponding computerP12	Corresponding computerP13	Corresponding computer P15	Corresponding computer P11	Corresponding computer P10	GND

3》Output interface is defined (in the picture for 1 to 22)

P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22
正	地	X A+	X A-	X B+	X B-	YA+	YA-	Y B+	Y B-	ZA+	ZA-	ZB+	ZB-	A A+	A A-	A B+	A B-	MO+	GND	GND	MO-

Power is connected to 12 48V 8A (Optional according to the stepper motor operating current) above switching power supply, received marked on the power input interface。

12V power output is used to pick up the 12V cooling fan。

The spindle motor control is controlled through the parallel port PIN14. The spindle motor voltage must comply with the supply voltage range。
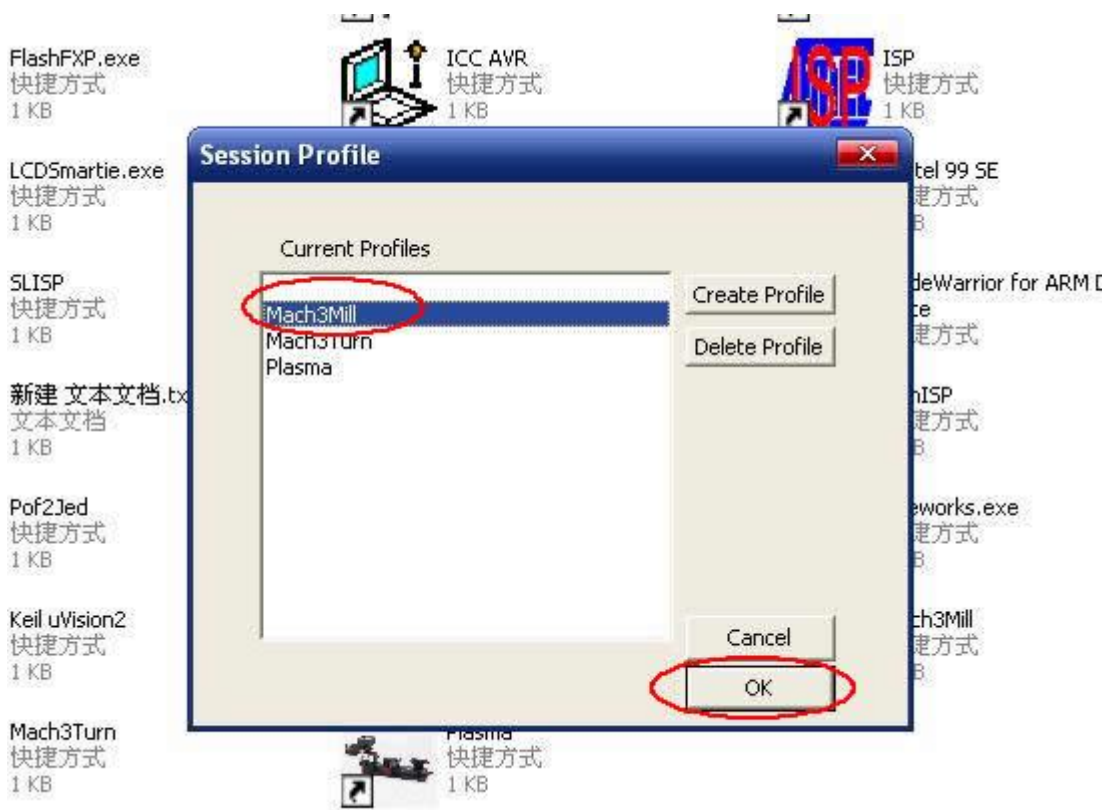
三》MACH software using the method

Figure1

Figure 1, open the MACH3 software, now mach3MILL then select OK

Figure 2

MACH3 open the interface shown in Figure 2, above the action button, where we first configure the MACH software。
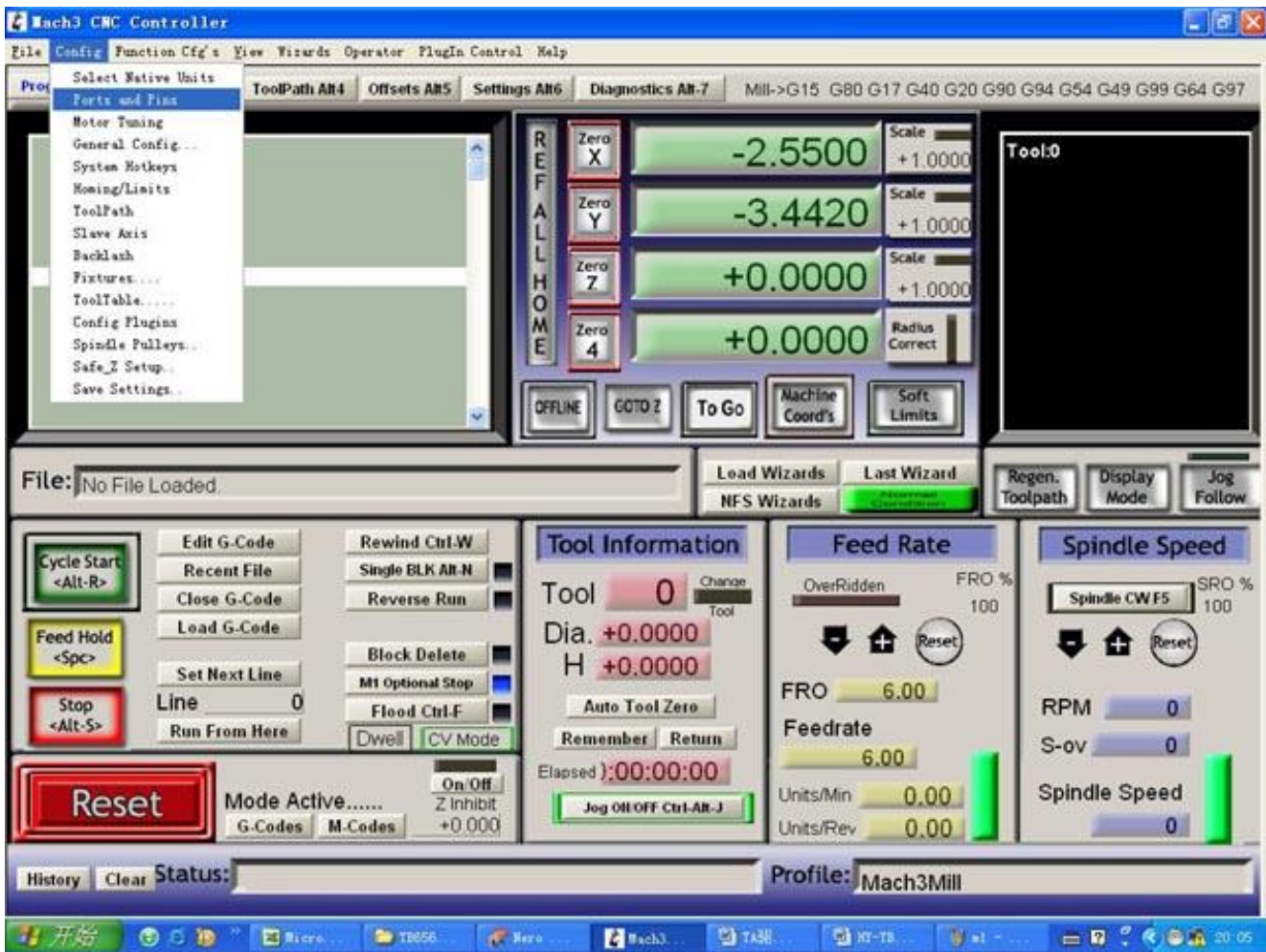
Figure 3

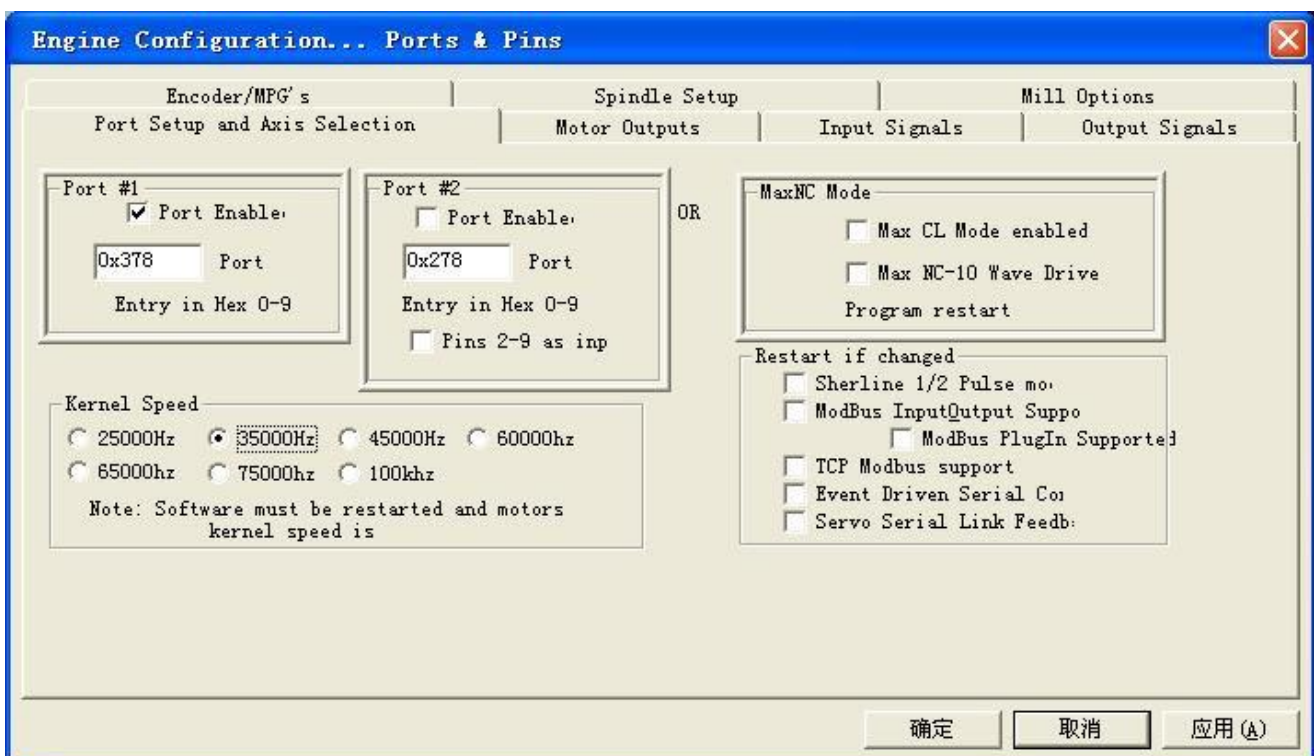Figure 3, open the config menu PORT PIN menu

Figure 4

Figure 4

Set on the circle a place where you can set the fundamental frequency, this parameter of the motor rotation speed. Set up, select the circle place, the configuration of the definition of the foot, as shown in Figure5
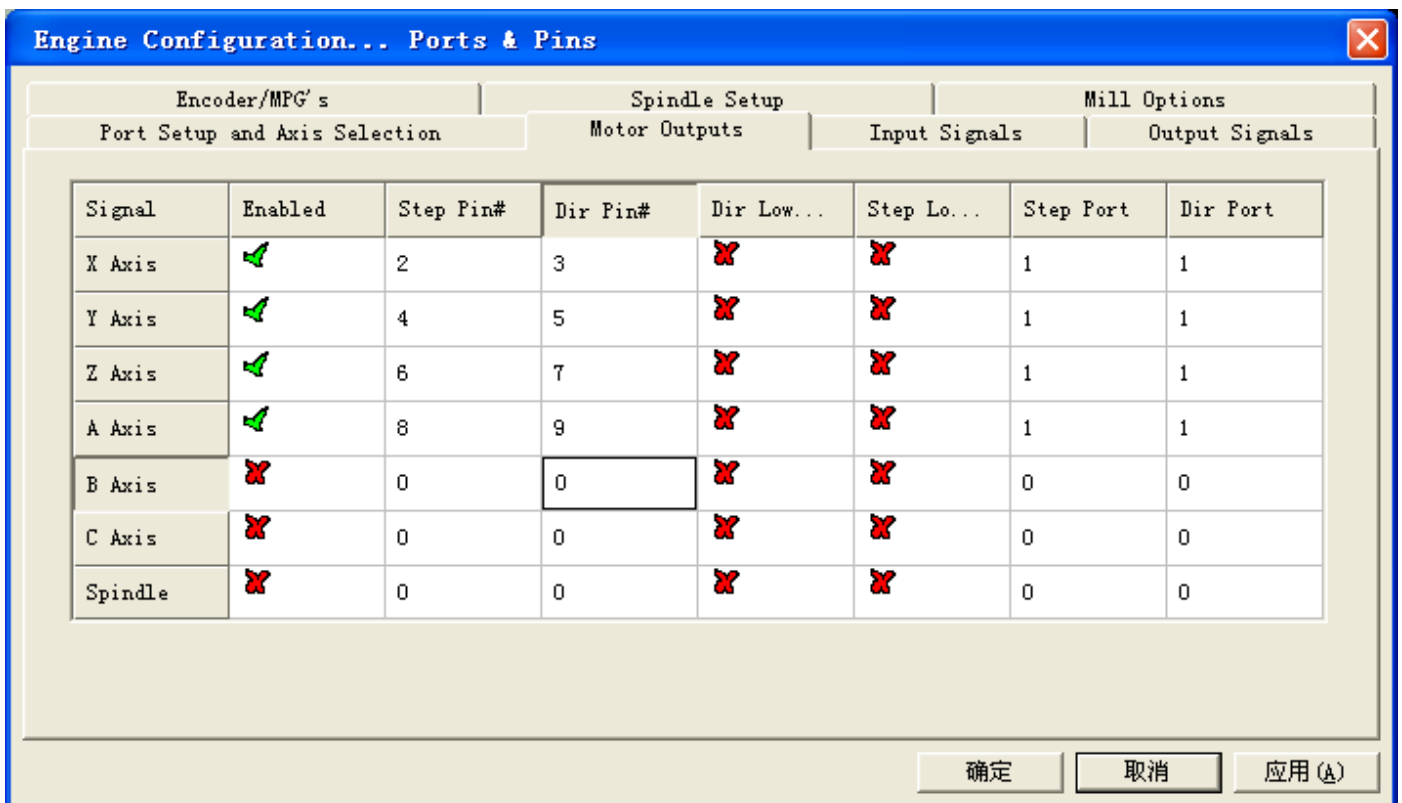

Figure5

According to the definition of the parallel port of the board, follow the map circle to indicate the definition modify the software settings。
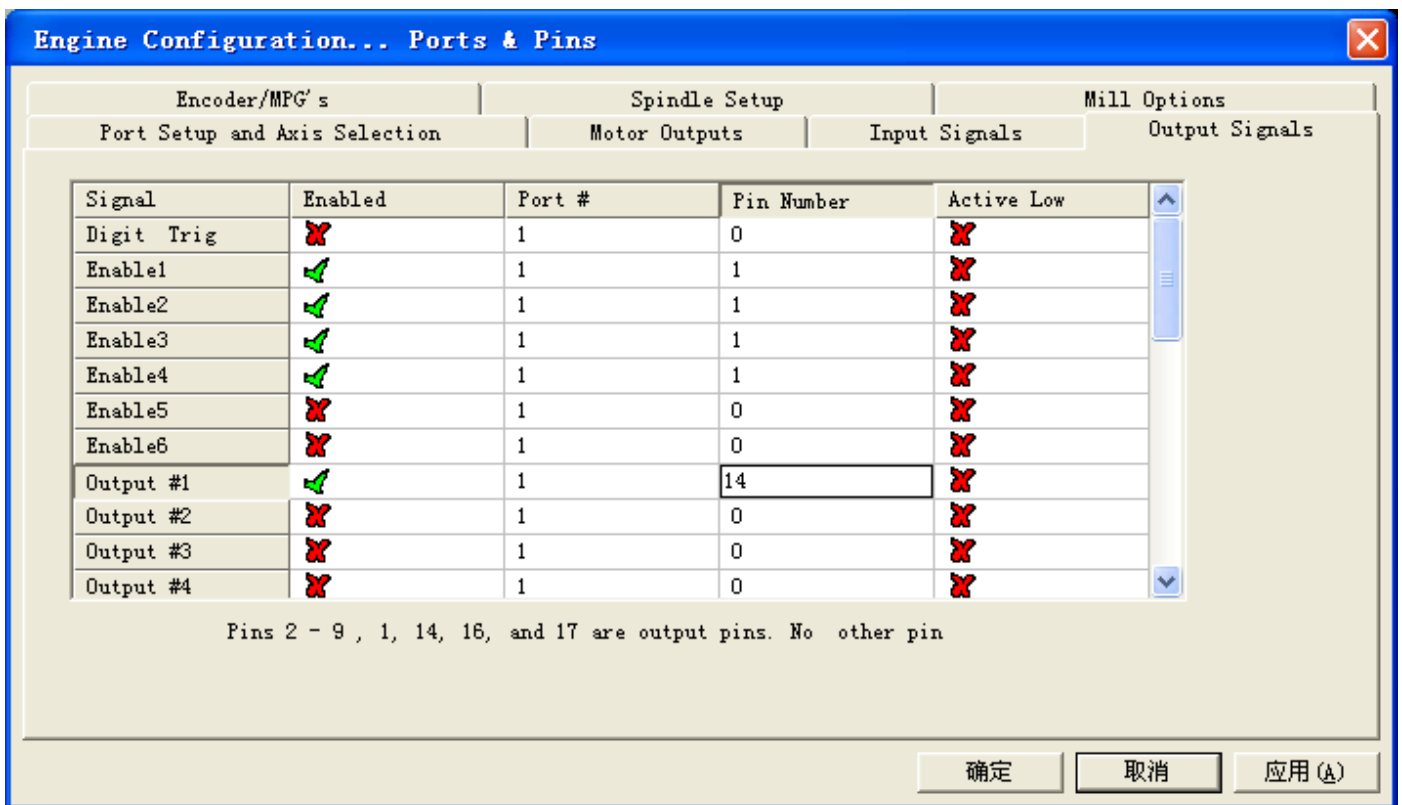
Figure 6

Then part in the selection output signals, as shown in Figure 6, according to the settings of the circle, set the appropriate。
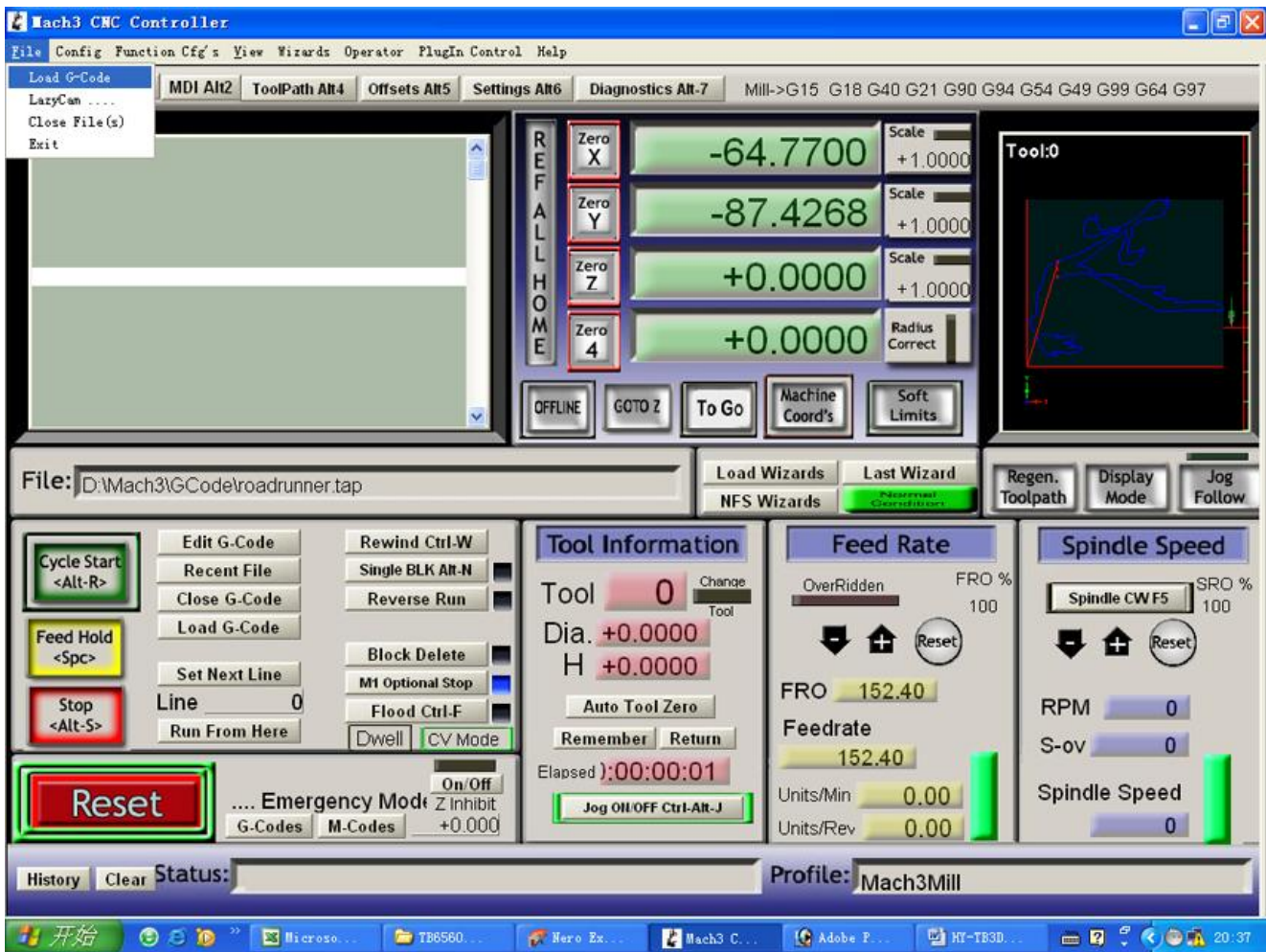
Figure 7

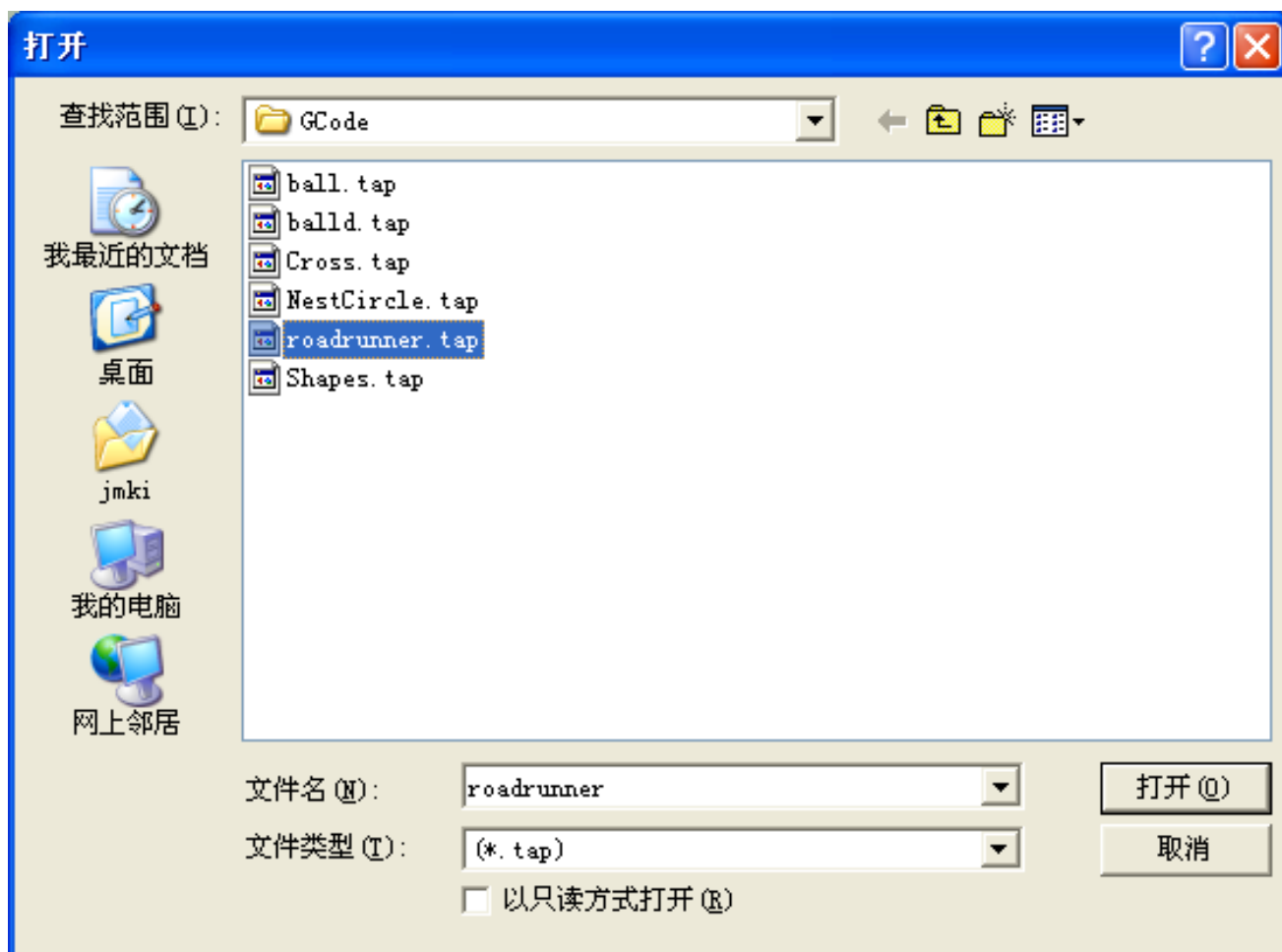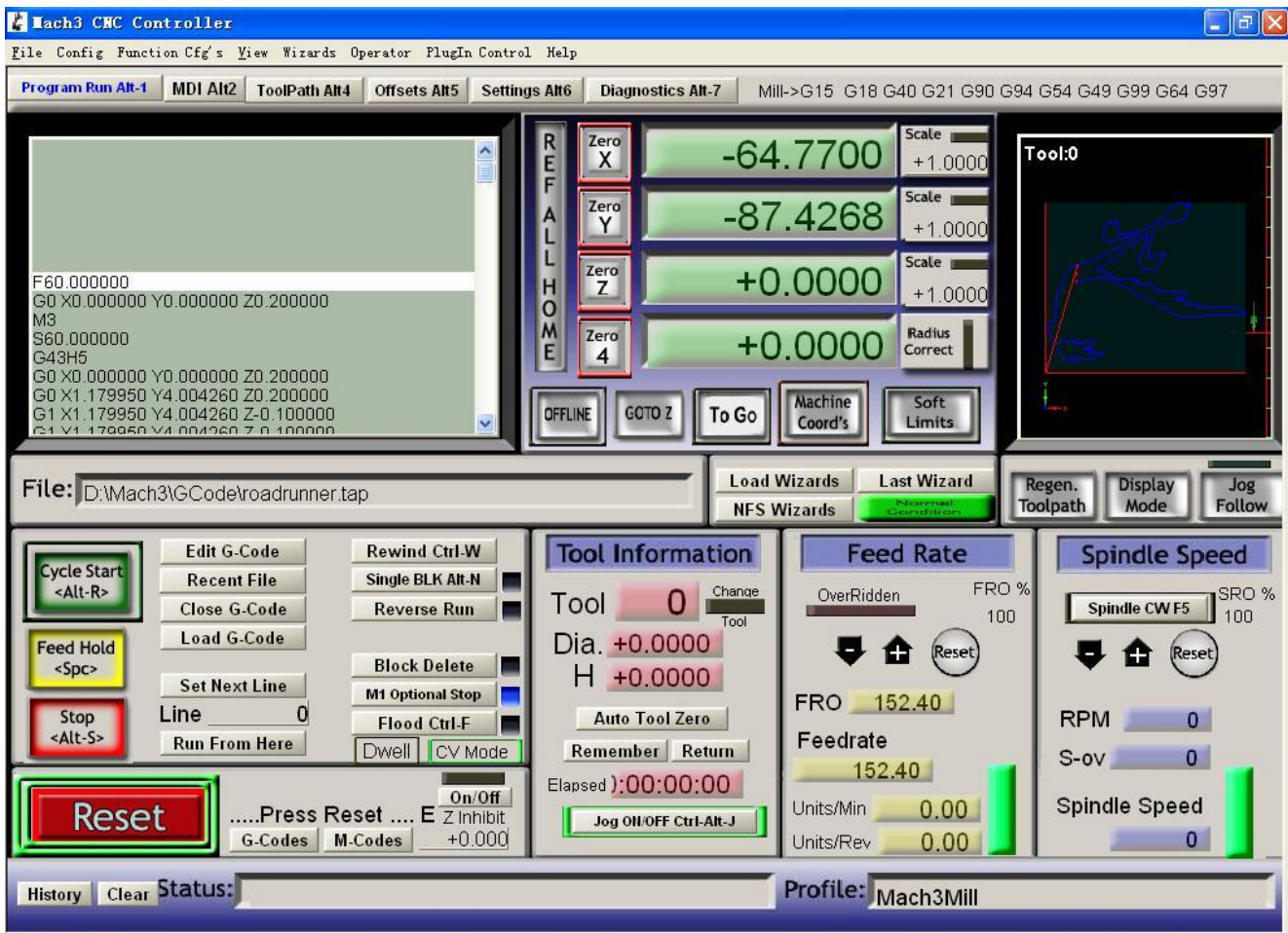All set ok, you can open the G code need to run, as shown in Figure7

Figure 8

Figure 9

Open the G code, you can see the red the RESET flashing, you can use the mouse to click this RESET to stop flashing, then you can press circle the location CYCLESTART run.