Aerospace TB3-axis drive board HY-TB3DV-N Instructions

Thank you for choosing our products better and faster operational numerical control for you, please read this manual

Products Features :

1: Integrated SCM manual control system, you can directly from the computer manual

2: The maximum 3.5A drive current to a maximum 86 stepper motor drives, more powerful

3: 1-16 sub-setting, higher accuracy, smoother operation

4 : Overload over-current over-temperature protection, full protection of your computer and peripheral equipment

5: 4 files current settings can be set according to the user the actual current requirement

6: Full closed-type optical isolation to protect the user's computer and equipment

7: Professional design, two-stage signal processing, super anti-jamming

8: Bipolar constant current chopper drive motor low-speed non-creeping phenomenon, noise, non-resonant region。

9: 2-way output control, scalable fifth axis or 2-way control of external equipment.

10: Four input control, you can set limit, emergency stop, which is divided into pairs of knives.

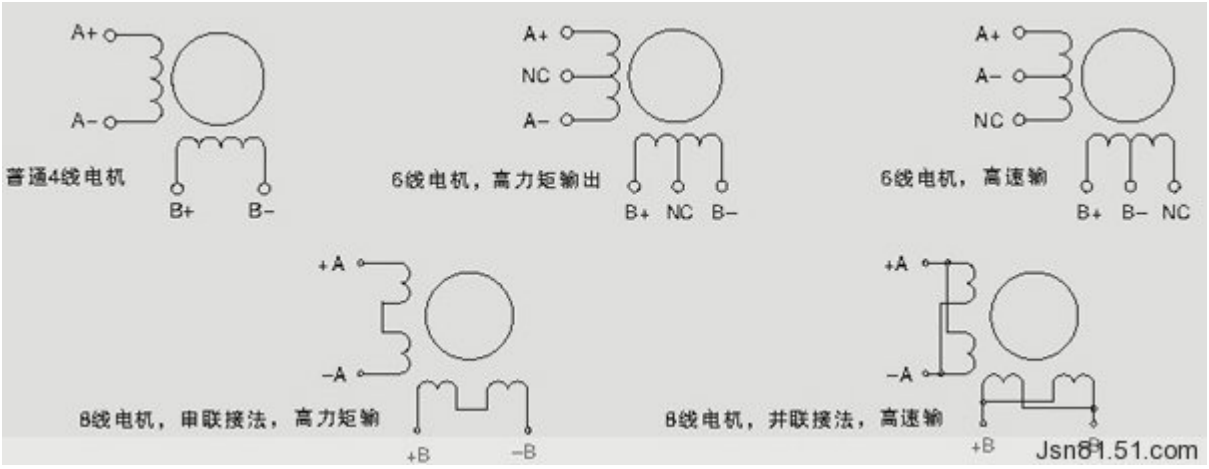
Electrical properties (ambient temperature Tj = 25 ℃ pm):

Input Power	12 - 36V DC power supply
Stepper motor drive current	3A (peak value 3.5A)
Drive type	Double-pole constant flow PWM actuation output.
Actuates the electrical machinery	42,57,86 step-by-step the electrical machinery, 2 - 4 (4 6 8 step-by-step electrical machinery)

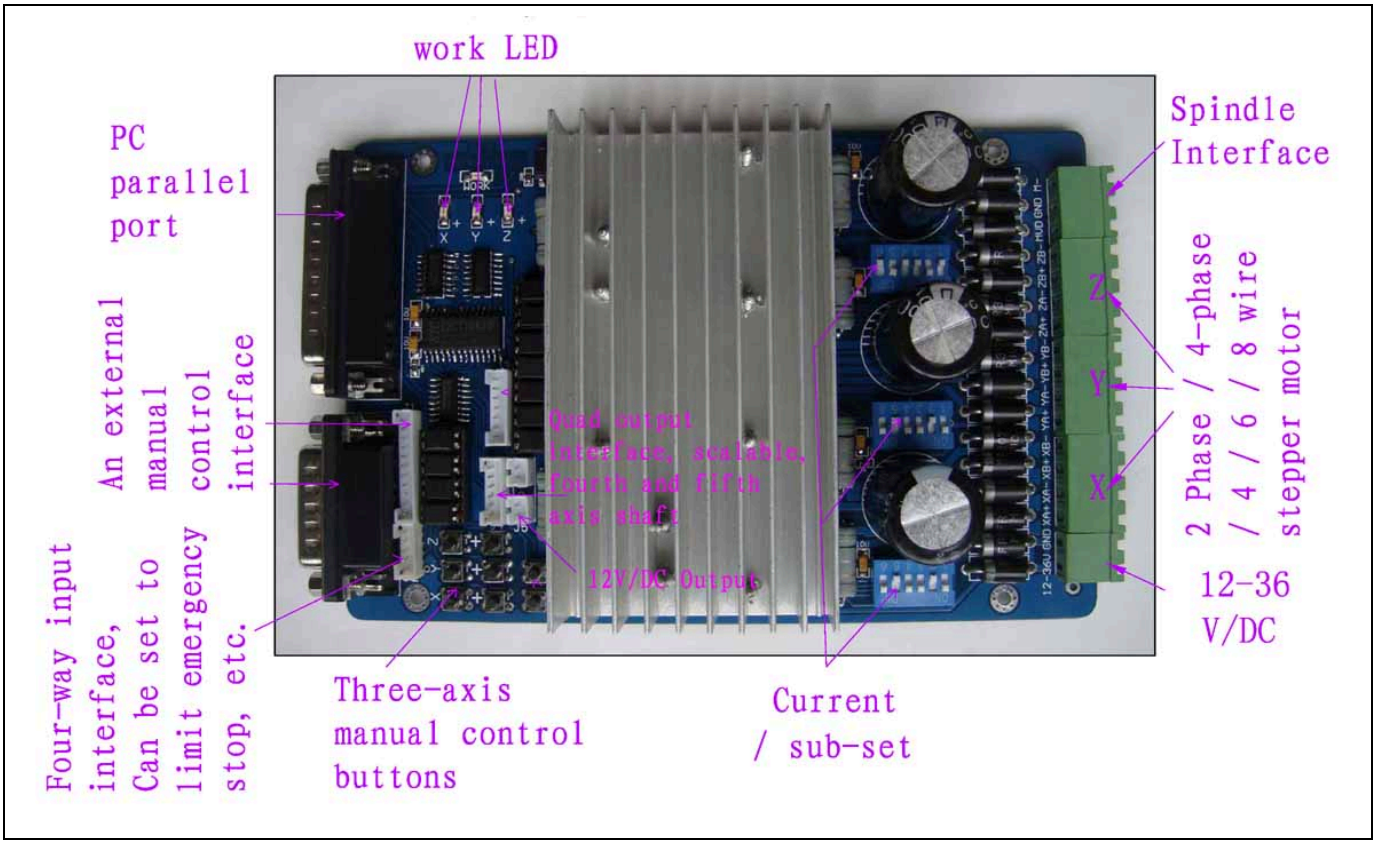
Segmentation set table:

Segmentation set	SW1	SW2	Buffer set	SW3	SW4	Current set	SW5	SW6
Full Step	ON	ON	Fast	ON	ON	100%	ON	ON
Half-step	ON	OFF	25%	ON	OFF	75%	ON	OFF
1/8step	OFF	OFF	50%	OFF	ON	50%	OFF	ON
1/16step	OFF	ON	Slow	OFF	OFF	25%	OFF	OFF

Power output interface function



Detailed map interface marked



Please note the following before the test items

1， To determine the size of the supply voltage and current

2， Determine the stepper motor power and current (model)

3， Determine the stepper motor wiring

4， Power Please take 12 ~ 36V 8A (stepper motor in accordance with the work of current matching) The above switching power supply, I received a map indicating the power input interface。

12V power output for a 12V cooling fan to pick up where。

The definition of 1-PIN 25 of Parallel Interface is described as follows：

PIN14	PIN7	PIN6	PIN5	PIN7	PIN1	PIN2	PIN7	PIN4	PIN3	PIN8	PIN9	PIN16	PIN17
spindle motor	X Empower	X Dir	X Step	Y Empower	Y Dir	Y Step	Z Empower	Z Dir	Z Step	Expand output 1	Expand output2	Expand output3	Expand output4

The definition of 1-PIN15 of Manual Interface is described as follow（Click the image to upper right for the P1 left P15）

P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15
Y Step	X Step	Y Dir	Z Dir	Input 1	Input2	Input 3	Input 4	X Dir	Empower	Z Step	5V vdd	Empty	Empty	GND

Limit Switch Description

Input 1	Input 2	Input 3	Input 4
Corresponding parallel P10	Corresponding parallel P11	Corresponding parallel P12	Corresponding parallel P13

Output Interface Definition:

P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
VDD	GND	XA+	XA-	XB+	XB-	YA+	YA-	YB+	YB-	ZA+	ZA-	ZB+	ZB-	MO/V+	GND	MO-

Instructions of *MACH*

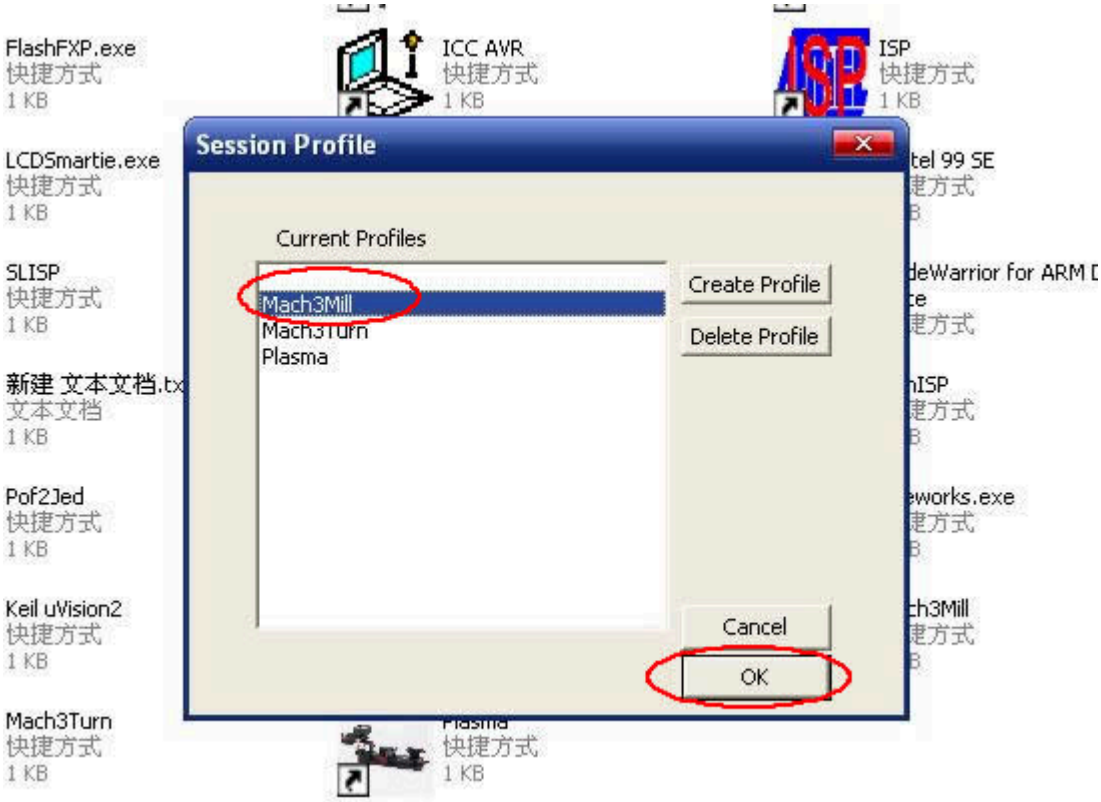


图 1

Open *MACH3* software, select *mach3MILL*, and then click *OK*. Please refer to Fig.1

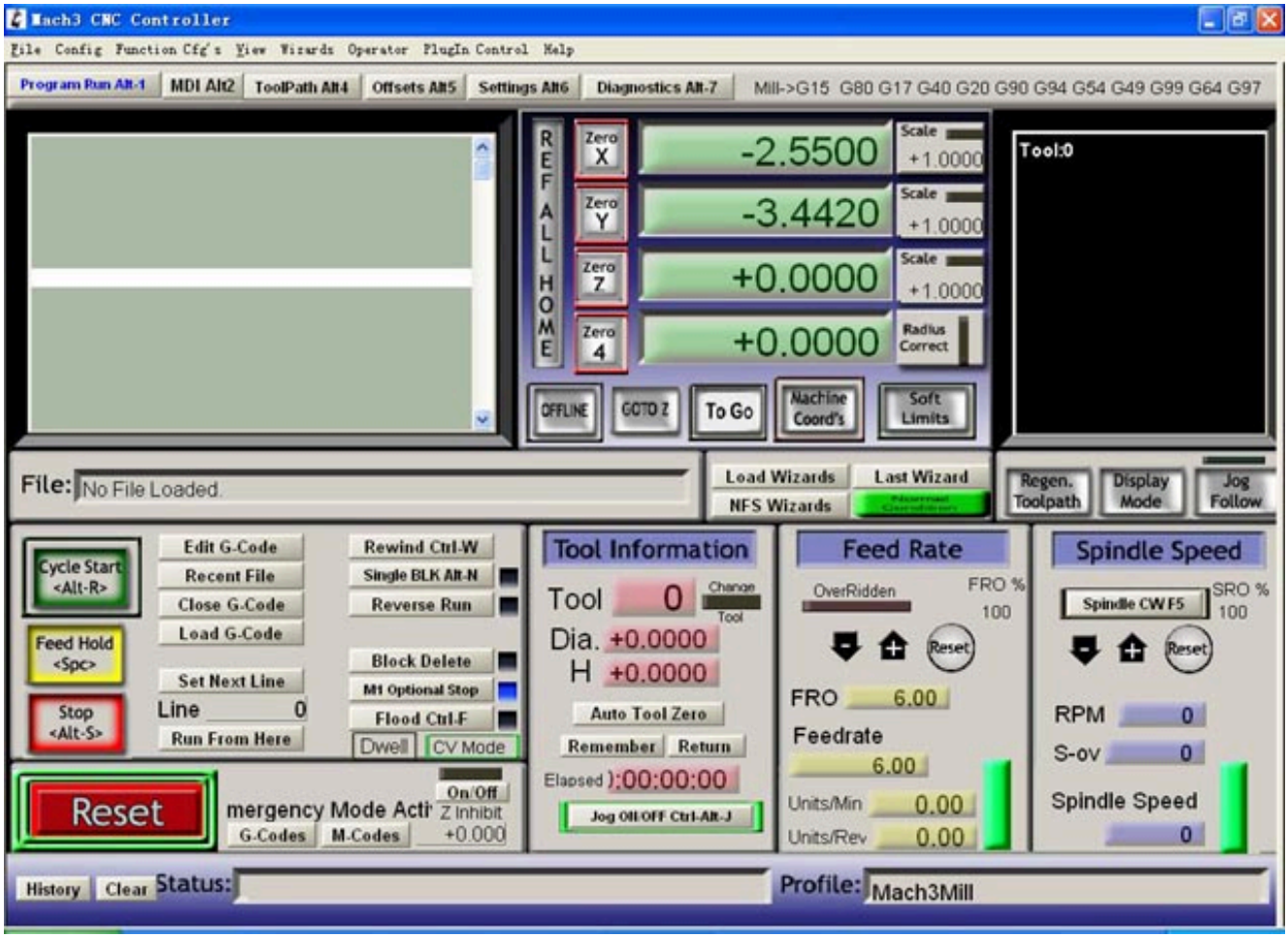


图 2

The interface of *MACH3* is displayed as Fig.2. The frequently-used action buttons are listed on the interface. We can configure *MACH* software at first.

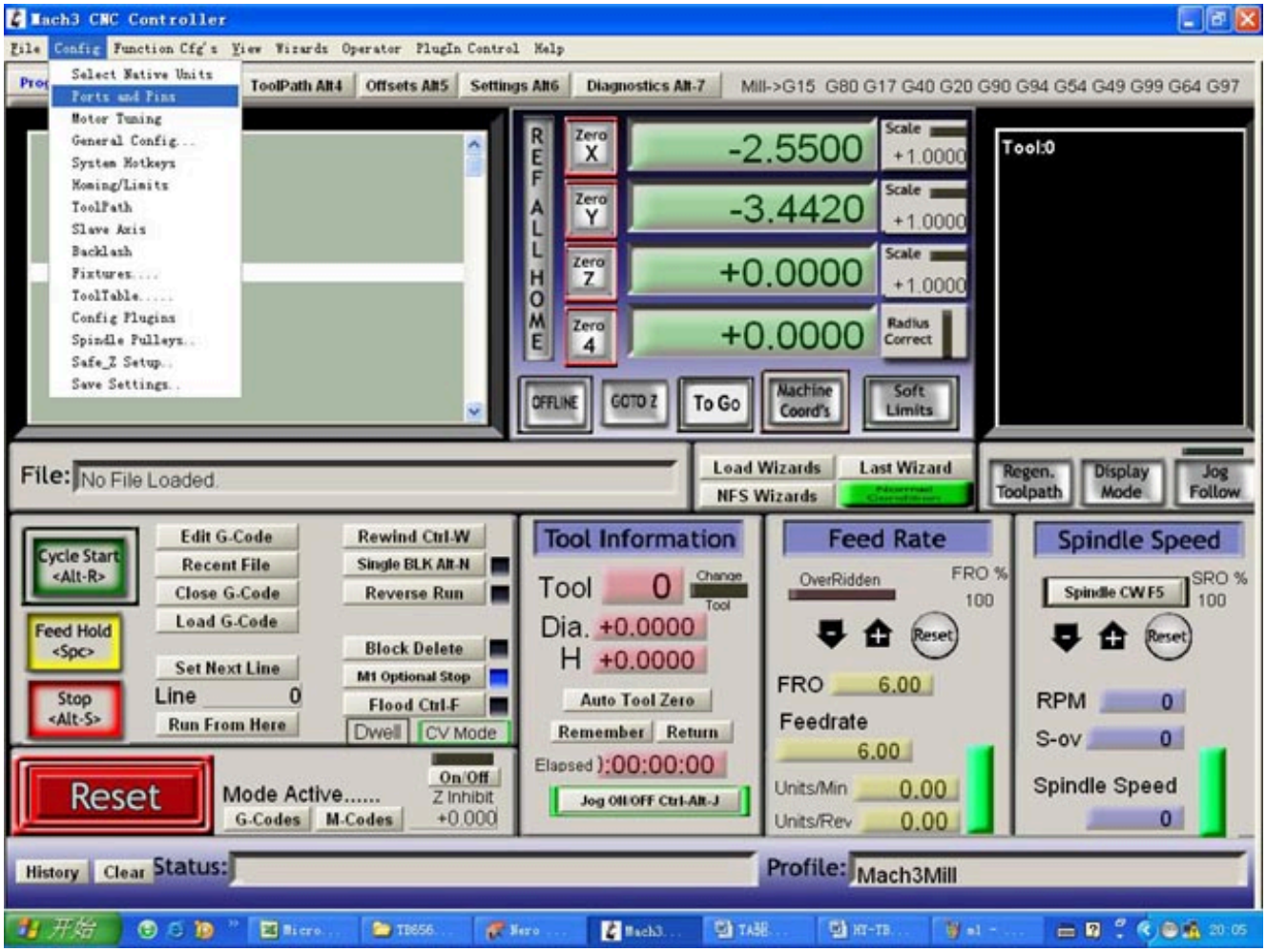


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图 3

Click *PORT & PIN* sub-menu of *config* menu. Please refer to Fig.3.

Please refer to Fig.4

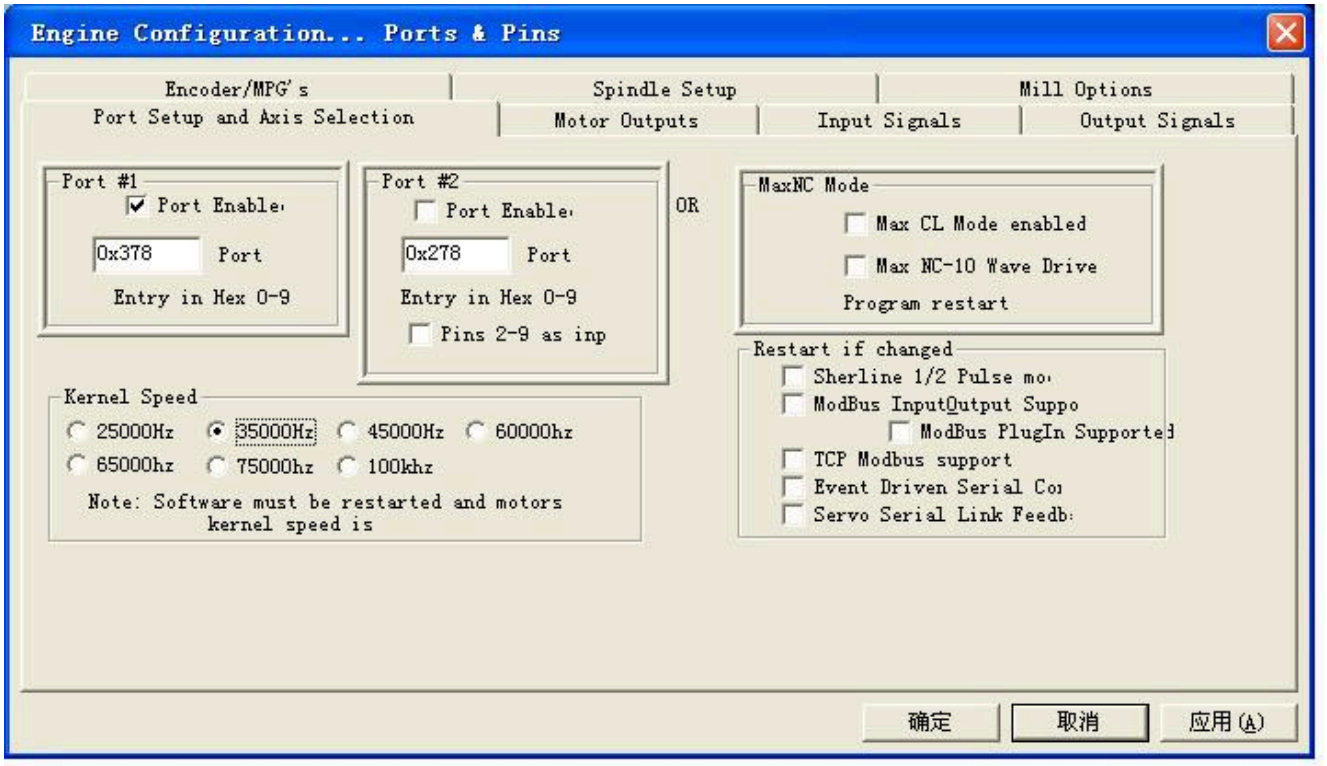

图 4

To set up the basic frequency within the above Circle 1. This parameter will affect the rotational speed of the motor. After the setup of basic frequency, select Circle 2 where *Configuration Scripting* will be defined, please refer to Fig.5.

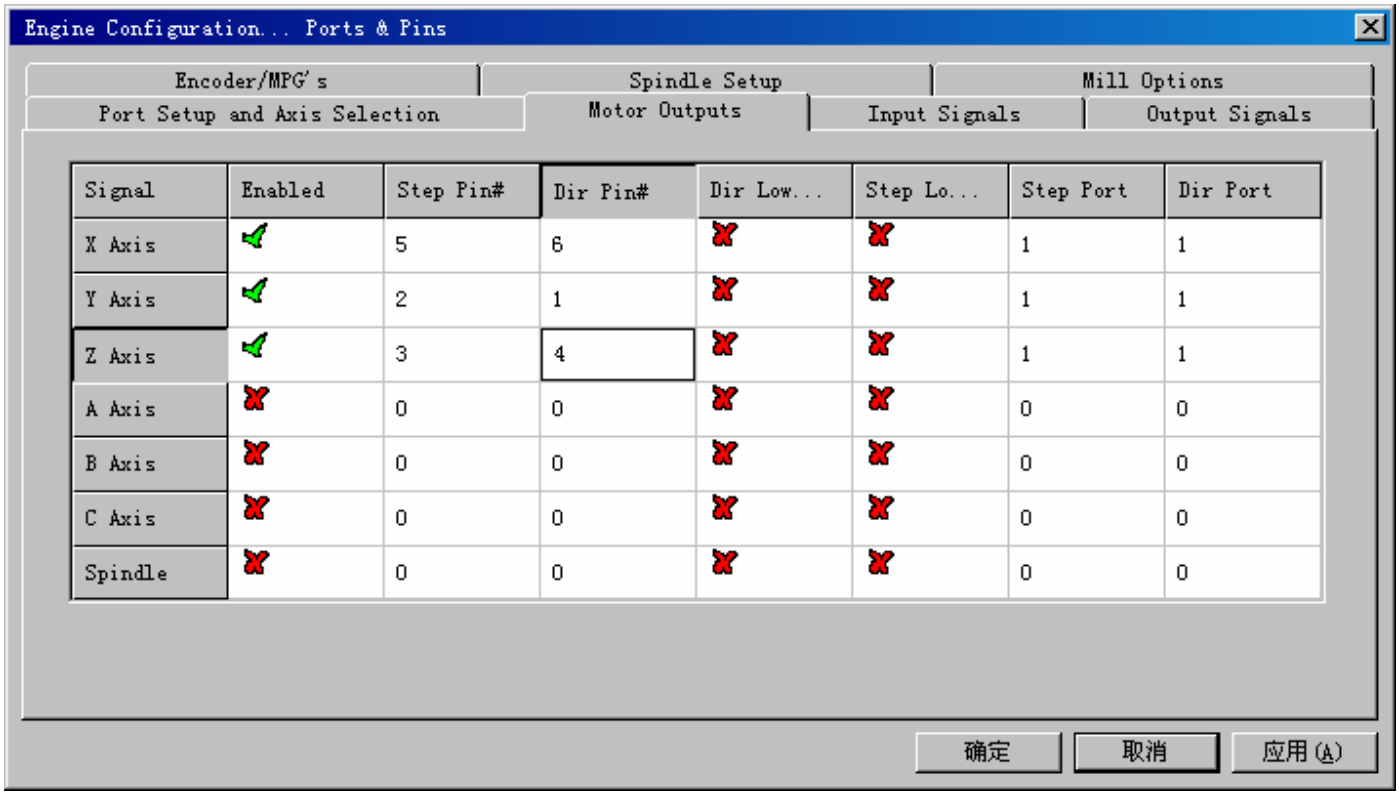

图 5

To modify the software settings according to the definition of Parallel Interface which is detailed in the above circle.

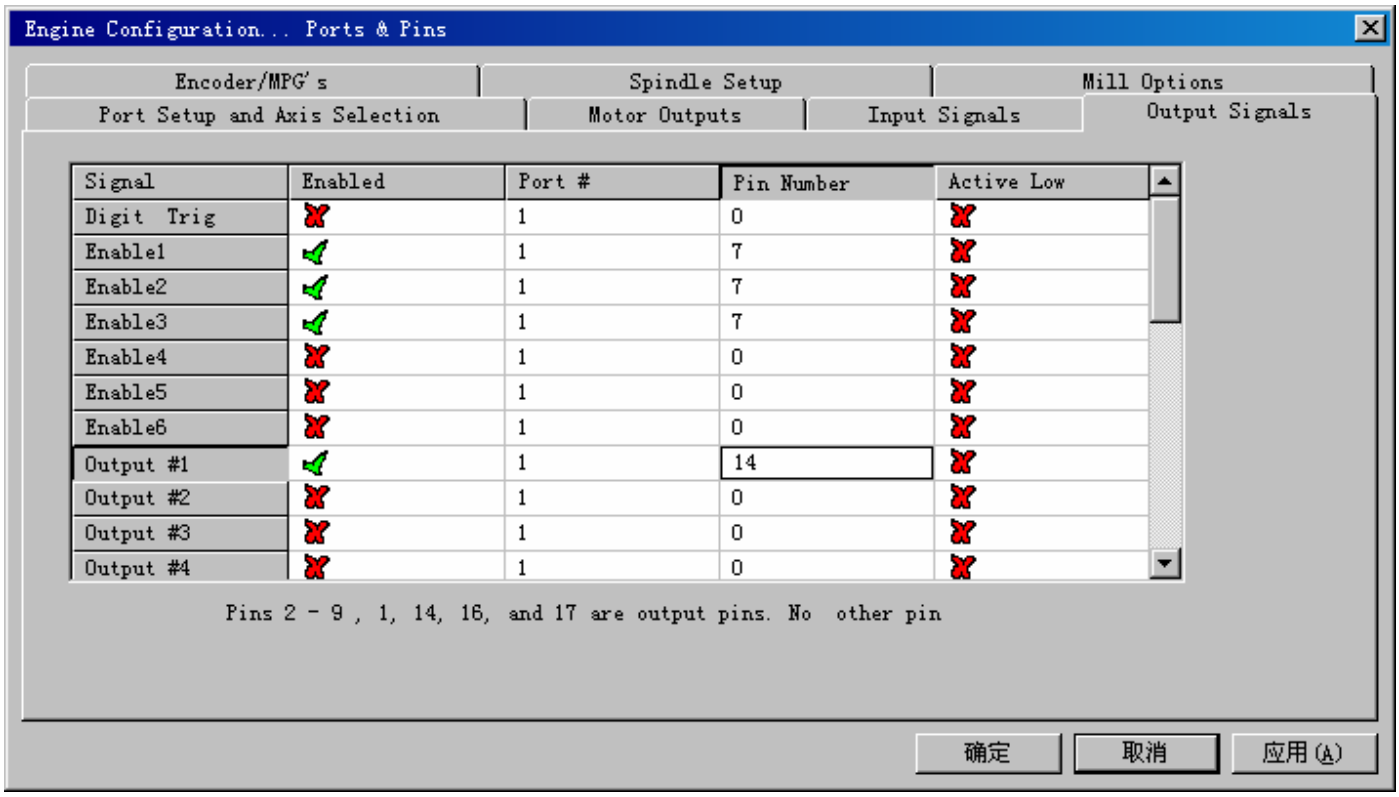

图 6

Then select the *output signals* column, as shown in Fig.6, and set up the corresponding items per the setup described in the circle.

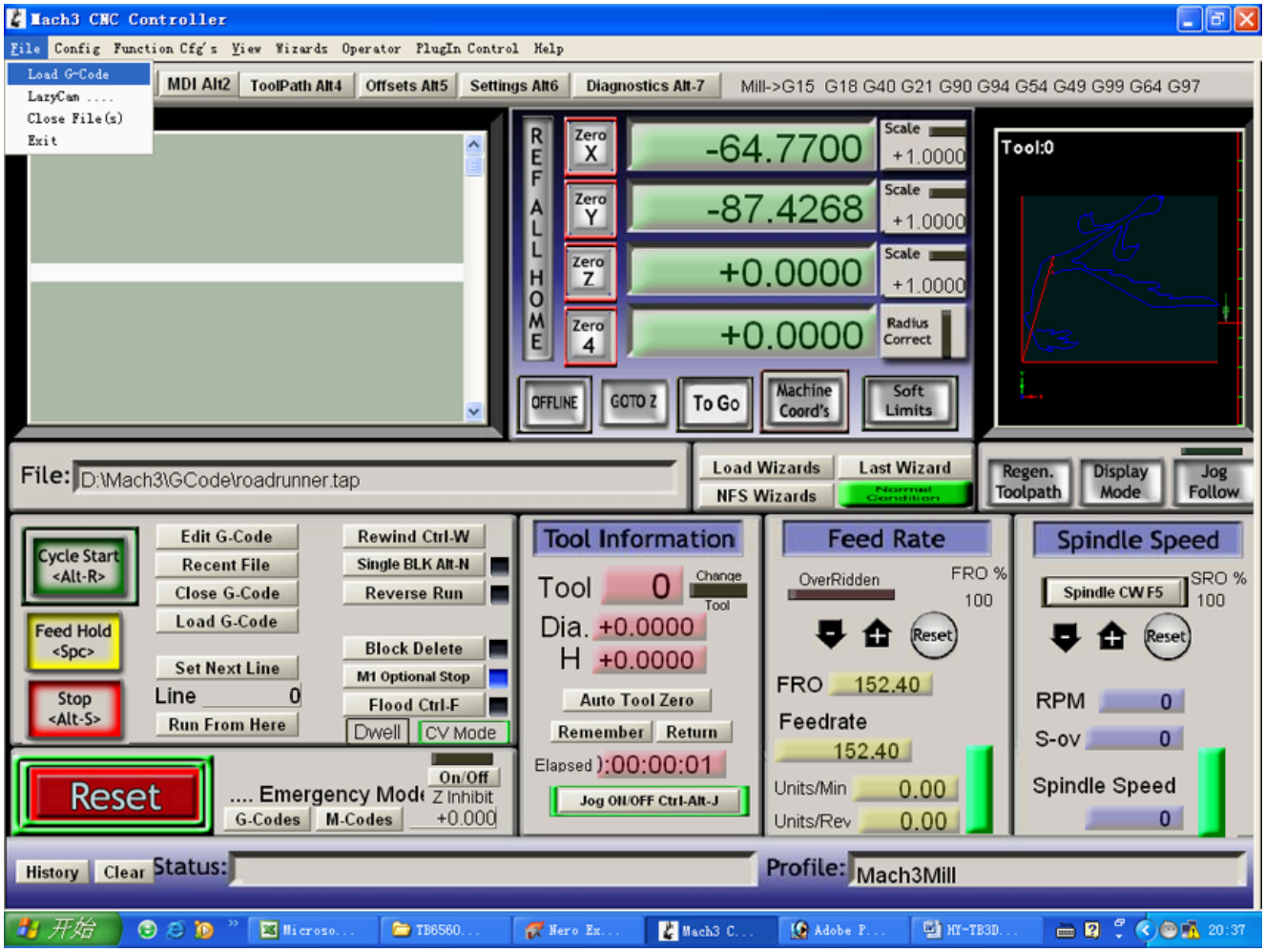

图 7

After all have been set up, open the *G CODE* that needs to run, as shown in Fig.7

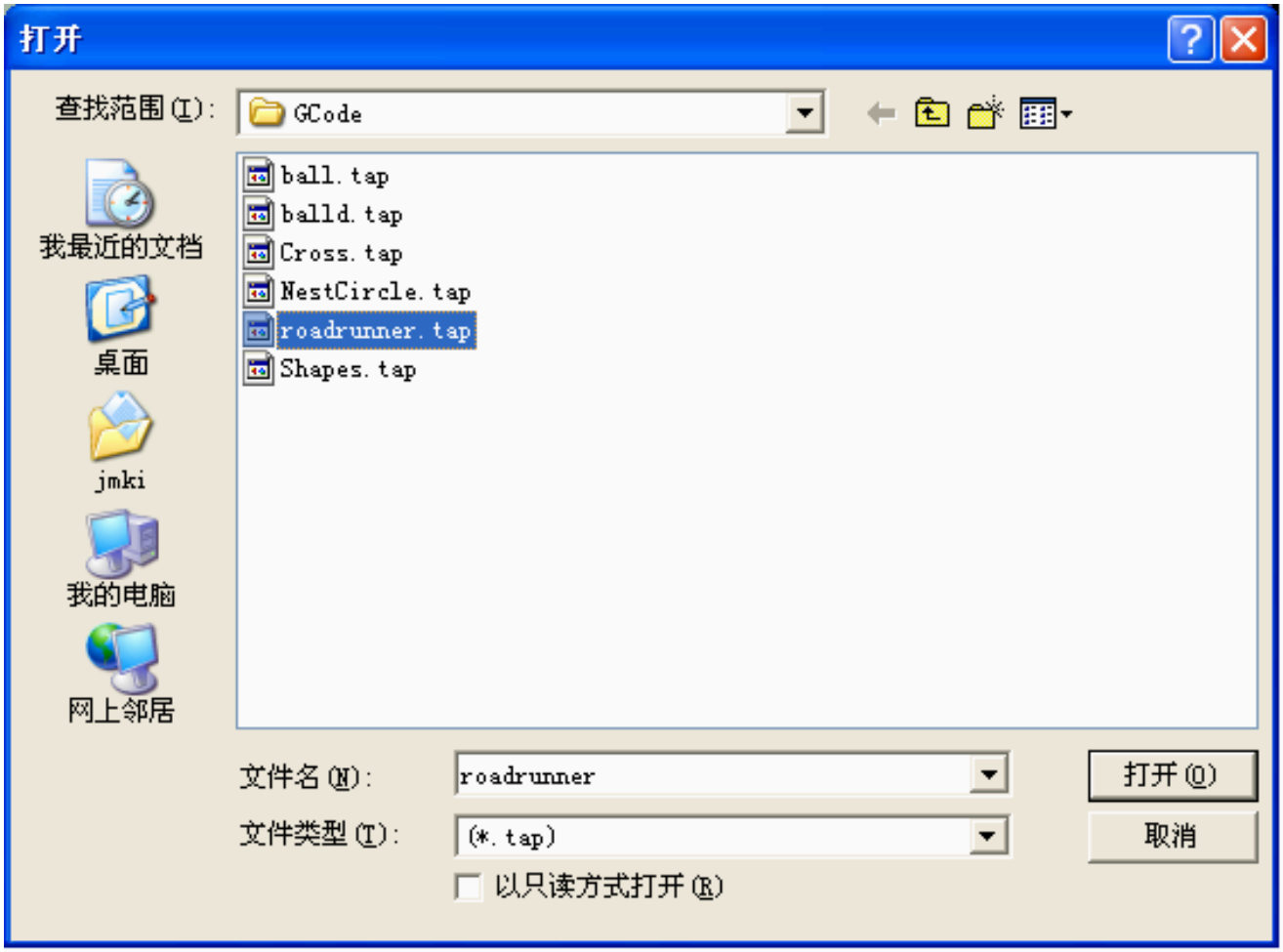
打开
查找范围(I):
GCode
ball.tap
balld.tap
Cross.tap
NestCircle.tap
roadrunner.tap
Shapes.tap
我最近的文档
桌面
jmki
我的电脑
网上邻居
文件名(N):
roadrunner
打开(O)
文件类型(T):
(*.tap)
取消
以只读方式打开(R)

图 8

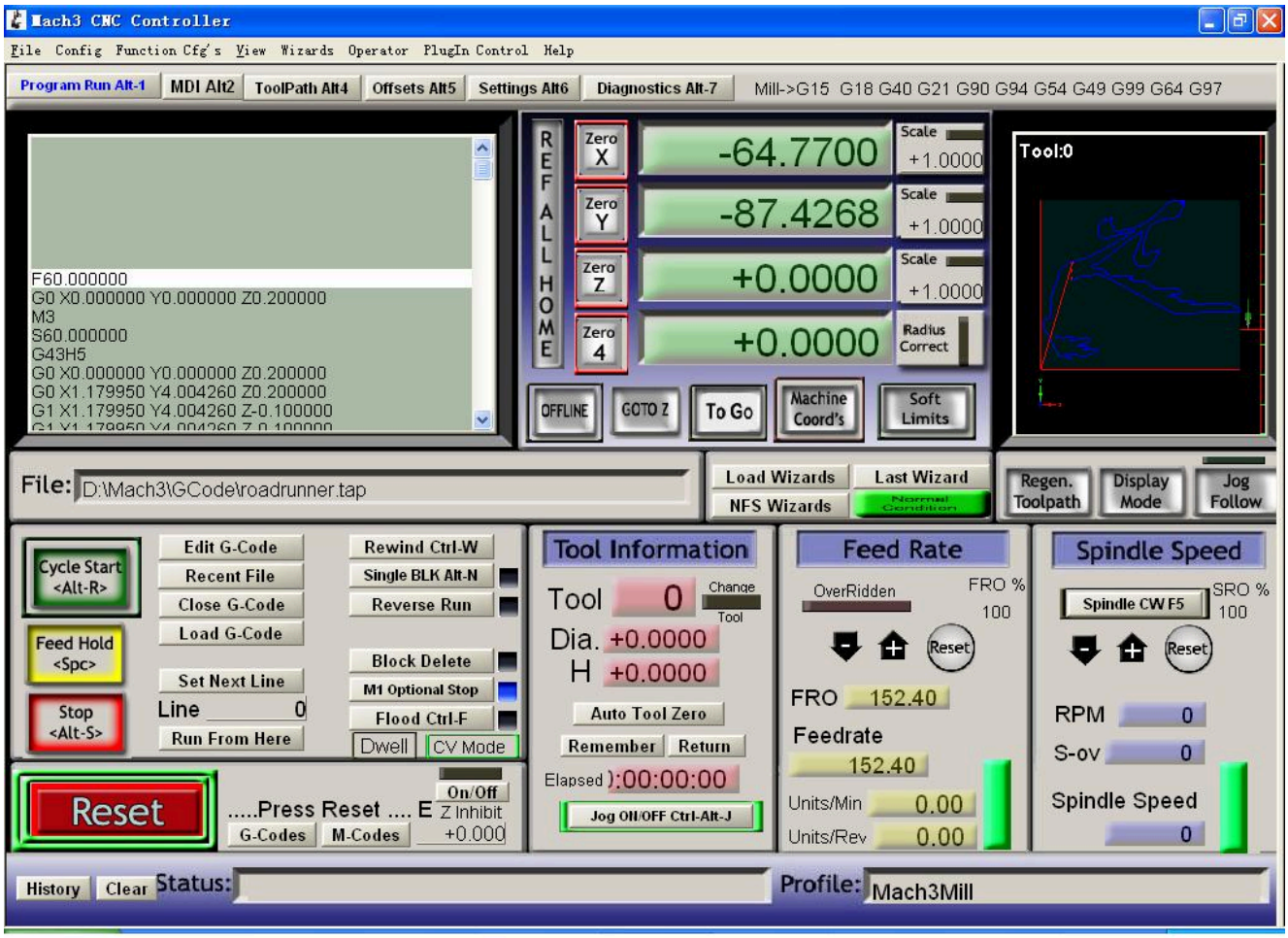
Mach3 CNC Controller
File Config Function Cfg's View Wizards Operator PlugIn Control Help
Program Run Alt-1
MDI Alt2
ToolPath Alt4
Offsets Alt5
Settings Alt6
Diagnostics Alt-7
Mill->G15 G18 G40 G21 G90 G94 G54 G49 G99 G64 G97
REF ALL HOME
Zero X
Zero Y
Zero Z
Zero 4
-64.7700
-87.4268
+0.0000
+0.0000
Scale
+1.0000
Radius Correct
OFFLINE
GOTO Z
To Go
Machine Coord's
Soft Limits
Tool:0
F60.000000
G0 X0.000000 Y0.000000 Z0.200000
M3
S60.000000
G43H5
G0 X0.000000 Y0.000000 Z0.200000
G0 X1.179950 Y4.004260 Z0.200000
G1 X1.179950 Y4.004260 Z-0.100000
File: D:\Mach3\GCode\roadrunner.tap
Load Wizards
Last Wizard
NFS Wizards
Regen. Toolpath
Display Mode
Jog Follow
Cycle Start <Alt-R>
Feed Hold <Spc>
Stop <Alt-S>
Edit G-Code
Recent File
Close G-Code
Load G-Code
Set Next Line
Line 0
Run From Here
Rewind Ctrl-W
Single BLK Alt-N
Reverse Run
Block Delete
M1 Optional Stop
Flood Ctrl-F
Dwell
CV Mode
Tool Information
Tool 0
Change Tool
Dia. +0.0000
H +0.0000
Auto Tool Zero
Remember
Return
Elapsed :00:00:00
Jog ON/OFF Ctrl-Alt-J
Feed Rate
OverRidden
FRO %
100
Reset
FRO 152.40
Feedrate
152.40
Units/Min 0.00
Units/Rev 0.00
Spindle Speed
Spindle CW F5
SRO %
100
RPM 0
S-ov 0
Spindle Speed
0
Reset
On/Off
Z Inhibit
+0.000
.....Press Reset .... E
G-Codes
M-Codes
History
Clear
Status:
Profile: Mach3Mill

图 9

After *G CODE* has been opened, you may see the red button *RESET* flashing. Click *RESET* to stop the flashing and then press *CYCLESTART* at the location of Circle 2。

Note: If you press *TAB* on the keyboard, a manual test panel will be displayed.

The limit interface shall be connected with three-axis limit switch. The setting shall be done in *output signals* column.