ECG--SAVEBASE

5-axis CNC Breakout board User Manual

Thank you for choosing our product, please read this manual before use.

PART 1:

Features:

1. Upgraded circuit, work more peacefully and steady than the version before.

2. Maximum support 5-axis stepper motor driver controller.

3. Two types of ways to get power, 5V DC power supply or USB port to directly get power from PC.

4. Two-stage signal processing, smooth signal transmission, powerful anti-jamming.

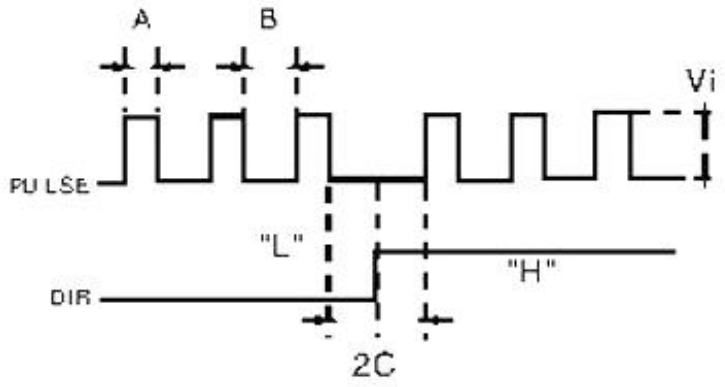
5. 5-input interface to define the emergency stop, limit, points in the knife, etc.

6. Relay output control interface, accessed by the spindle motor or the air pump, water pump, etc.

7. 5-axis work LED display, visually display the working condition of the stepper driver controller.

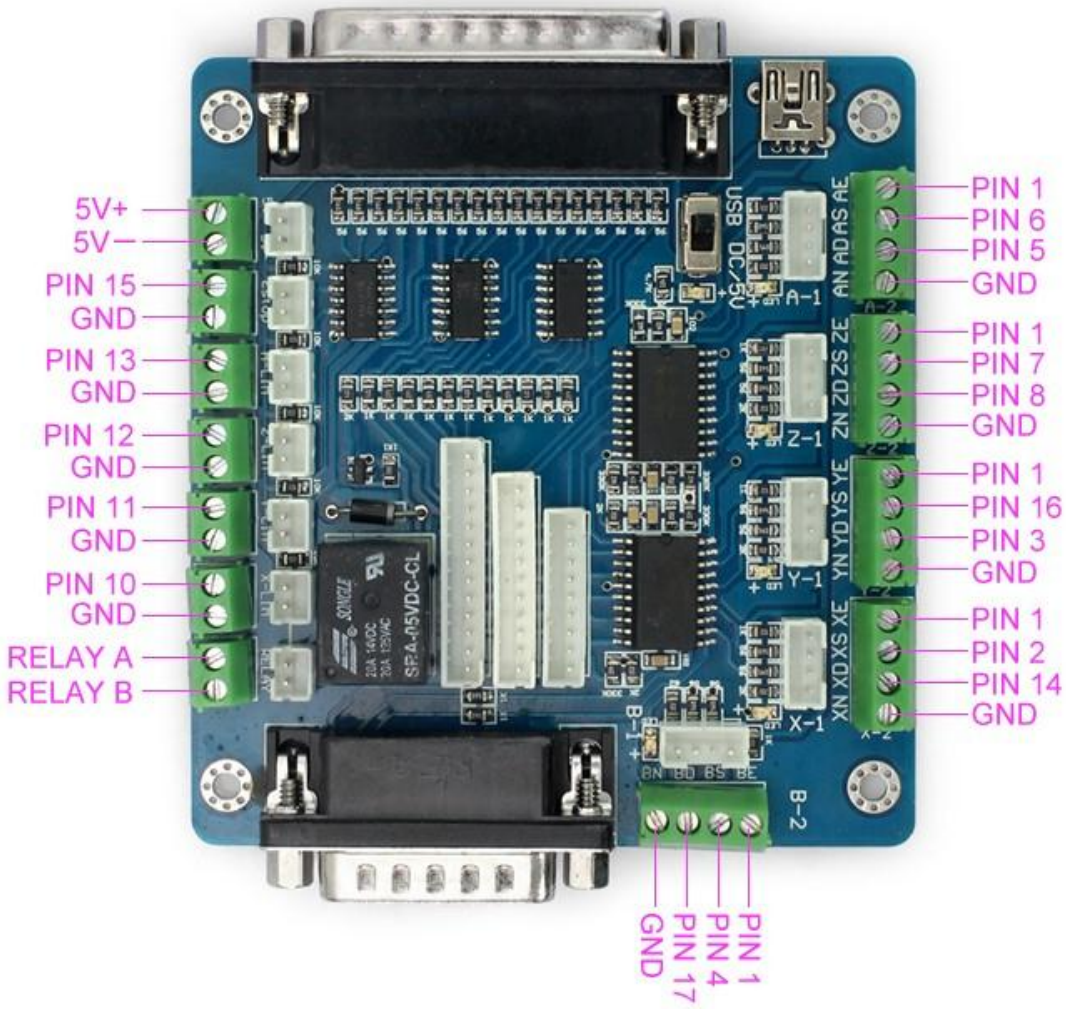
Electrical Performance (Ambient Temperature Tj = 25 ℃):	
Input Power	5V DC power supply or USB port to directly get power from PC
Compatible Stepper Motor Driver	Max 5 single axis stepper motor driver controller
Drive type	Pulse + Direction + Enable Signal Control
Net/Total Weight	About 80g/300g
Dimensions	90 * 82 * 15mm (L*W*H)

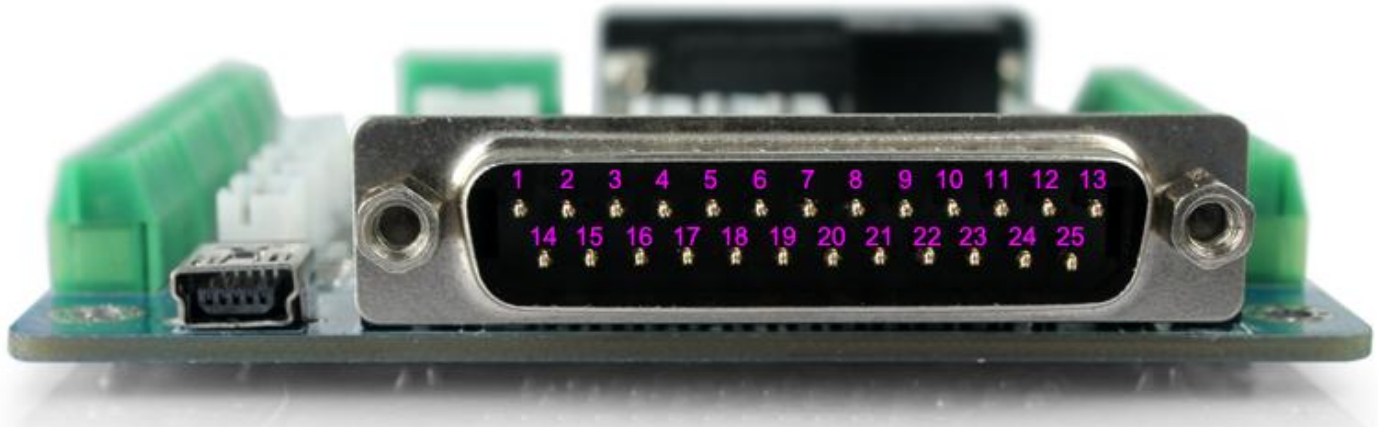
Waveform And Timing:



Pulse + Direction Mode

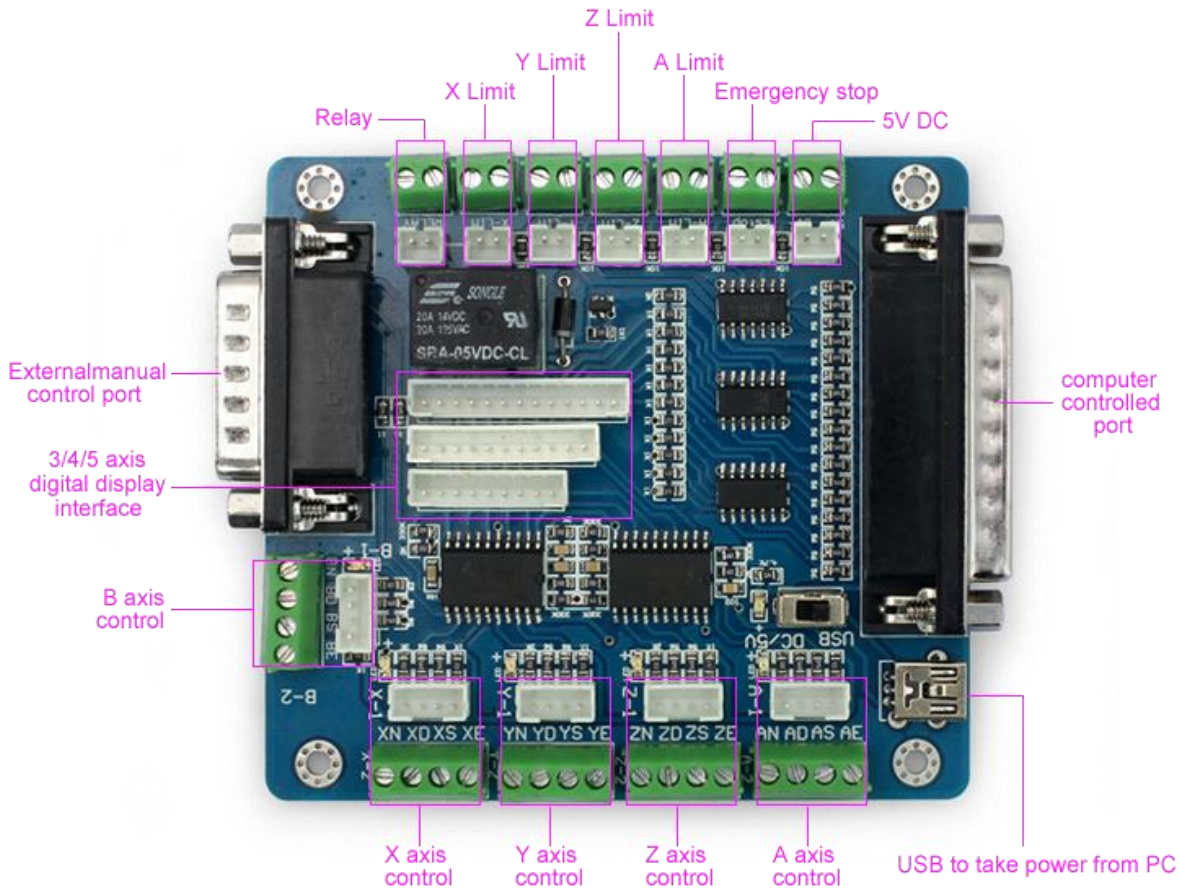
Interface & Pinout Definitions:



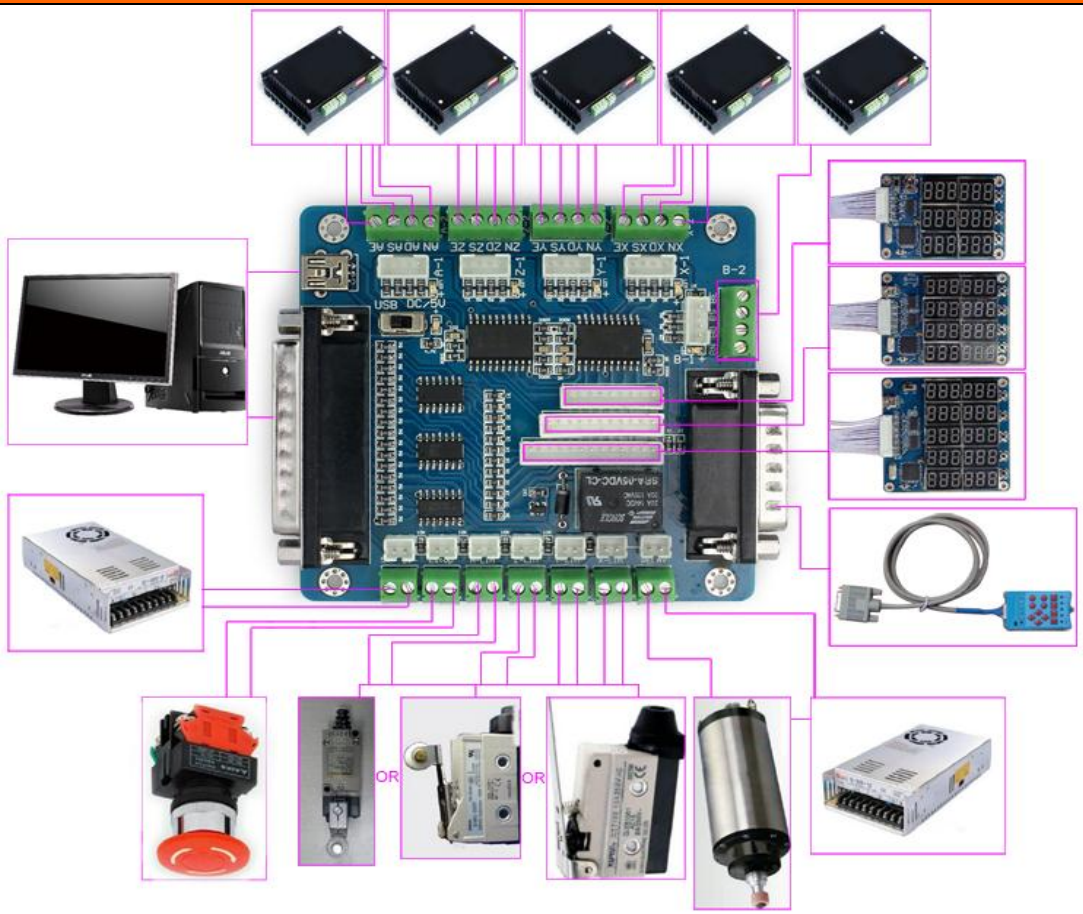


1. X/Y/Z/A/B-Enabled
2. X-Step/Pulse
3. Y-Direction
4. B-Step/Pulse
5. A-Direction
6. A-Step/Pulse
7. Z-Step/Pulse
8. Z-Direction
9. Spindle-Motor
10. LPT Input Signal/X-Limit
11. LPT Input Signal/Y-Limit
12. LPT Input Signal/Z-Limit
13. LPT Input Signal/A-Limit
14. X-Direction
15. LPT Input Signal/EStop
16. Y-Step/Pulse
17. B-Direction
18. GND
19. GND
20. GND
21. GND
22. GND
23. GND
24. GND
25. GND

Interface Detailed Drawing:



Interface Function & connections:



When testing, check the following notes before use:

1. Check the input voltage of the breakout board (make sure 5V input voltage);
2. Understand how the breakout board works with stepper drivers;
3. Check all the wiring among all the CNC units.

Part 2: The Definition Of Each Pin

1 Defined as parallel control:

PIN9	PIN1	PIN2	PIN14	PIN16	PIN3	PIN7	PIN8	PIN6	PIN5	PIN4	PIN17
Spindle motor	Enable	X Pulse	X Dir	Y Pulse	Y Dir	Z Pulse	Z Dir	A Pulse	A Dir	B Pulse	B Dir

2. Hand control is defined as follows 1 ~ PIN15computer-15P interfaces and benchmarks within the Digital ID)

P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15
B Pulse	B Dir	A Dir	Z Pulse	Y Pulse	X Pulse	X Dir	Enable	5V/VDD	5V/GND	A Pulse	Z Dir	Y Dir	Enable	Enable

3. The limit is defined as 1 to 5

X -Limit	Y- Limit	Z- Limit	A- Limit	Emergency
PLT-P10	PLT-P11	PLT-P12	PLT-P13	PLT-P15

Notes: A. 5V 1A power supply, please take more than switching power supplies, power input received indicated on the map interface.

B. Spindle motor control is controlled via the parallel port PIN1. Spindle motor voltage must comply with the supply voltage range.

Part 3: The Use Of Mach3

Figure 1

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

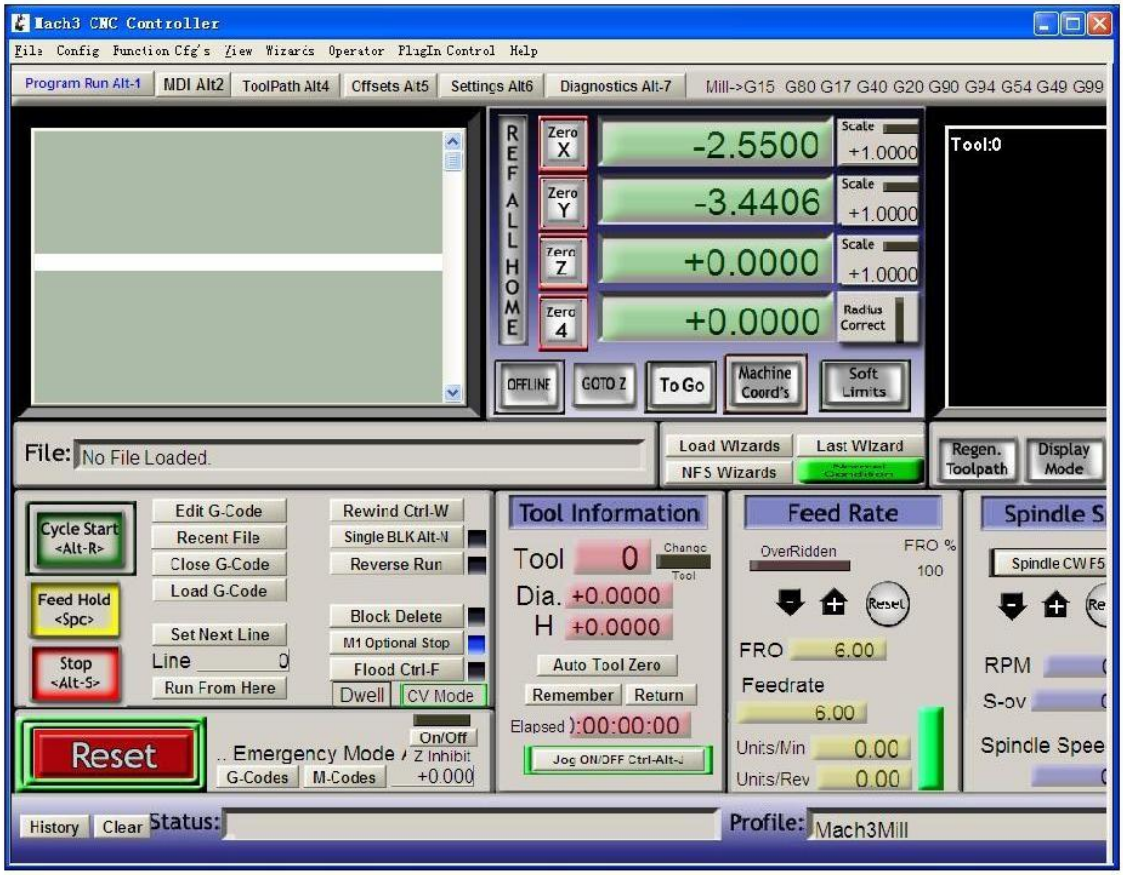


Figure 2

MACH3 open the interface shown in Figure 2, the action of commonly used button above, here we configure the MACH software.

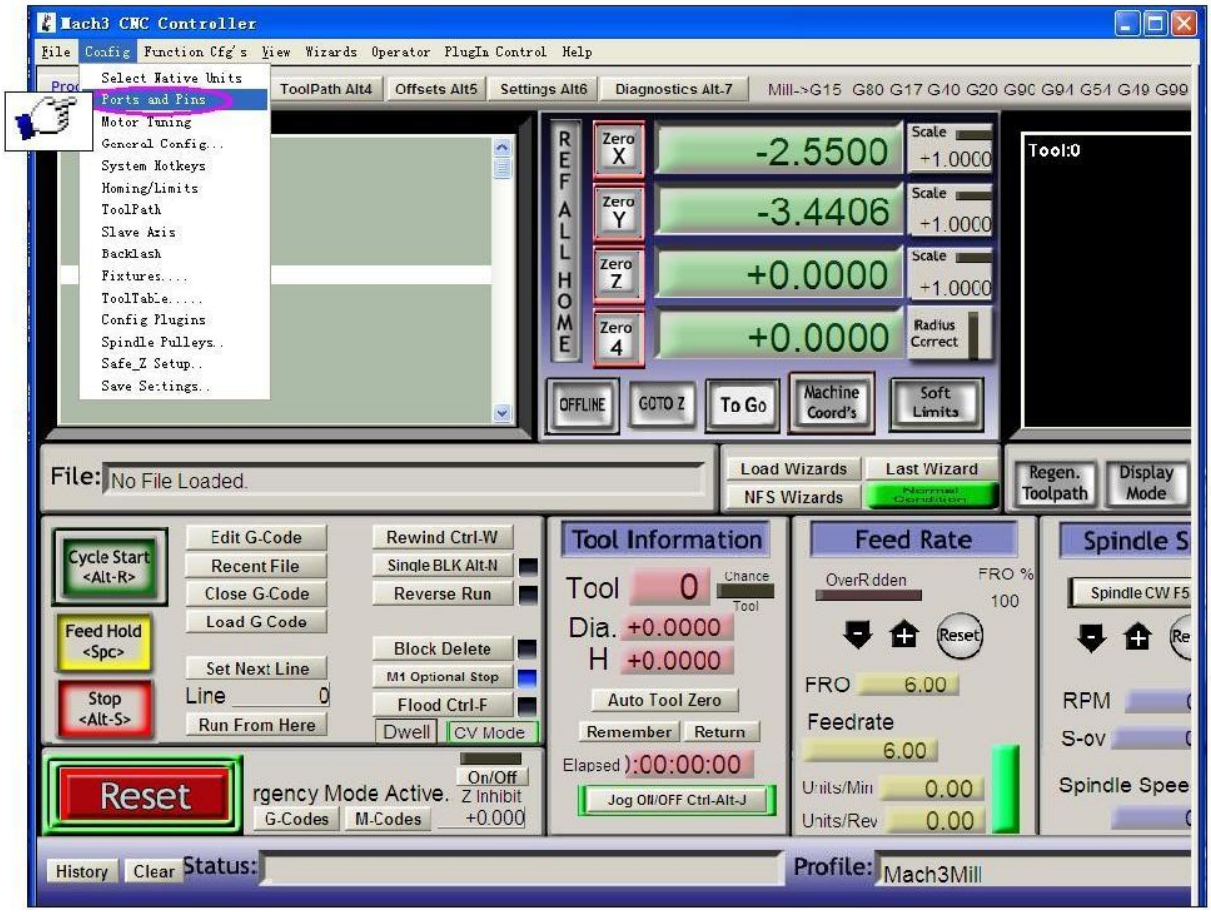


Figure 3

Figure 3: Click the “Config” menu “PORT & PIN” menu.

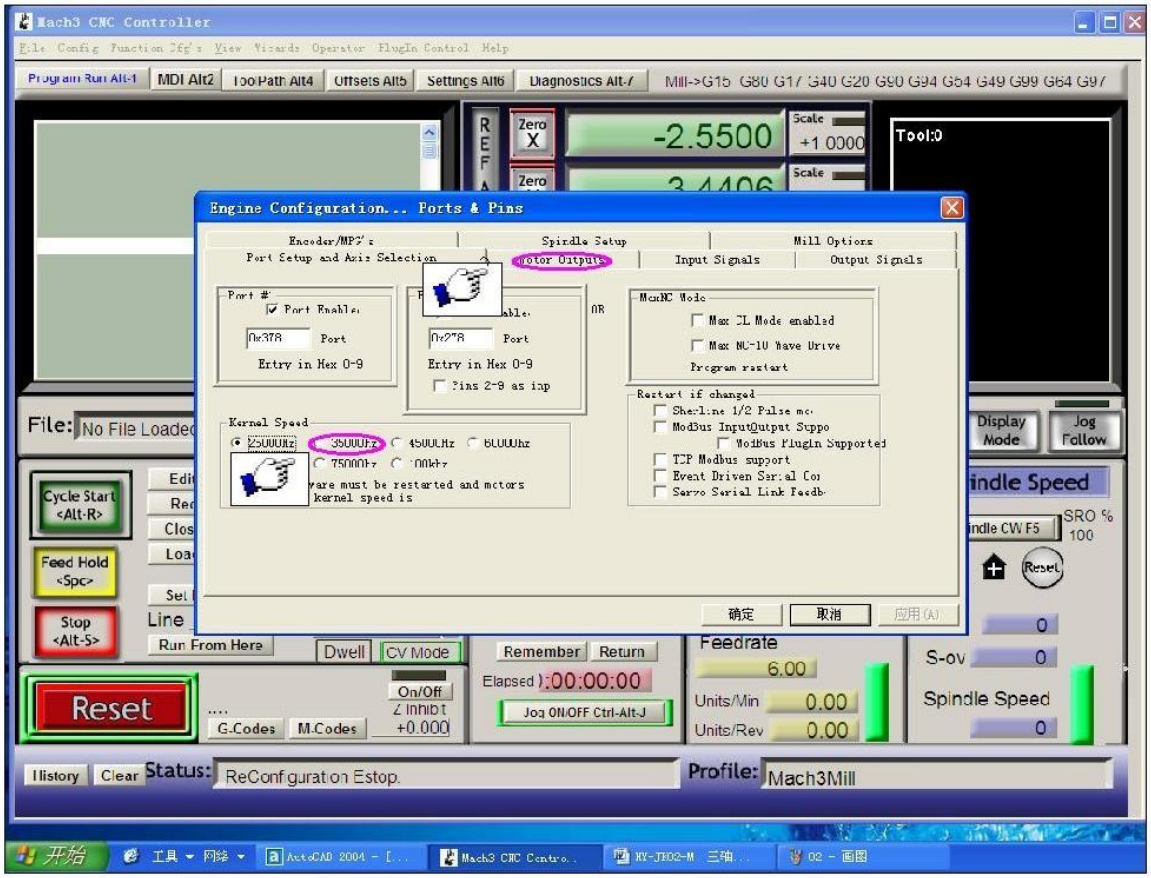


Figure 4

Figure4: Place on lap 1 setting can set the fundamental frequency, the parameters of the motor rotation speed. After 2 laps to set the place selected, the configuration pin definitions, as shown in Figure 5.

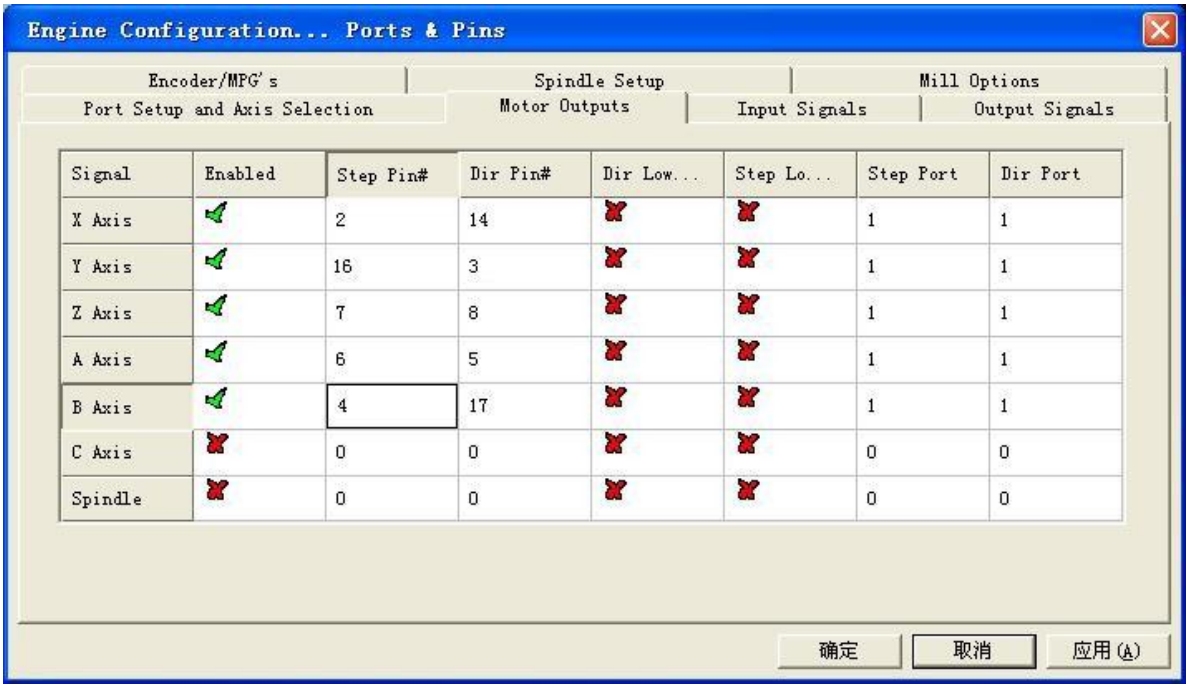


Figure 5

According to the definition of the board parallel port, follow the map on the circle to indicate the definition of modification of the software settings.

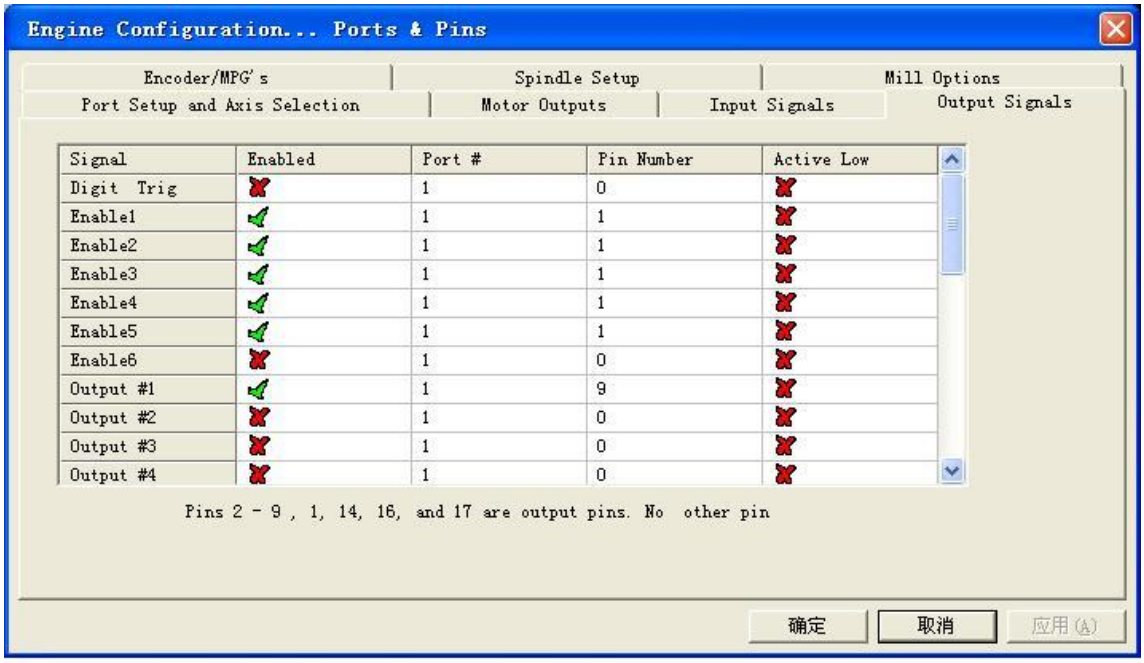


Figure 6

Then select the output signals in part, as shown in Figure 6, according to insiders of the settings, set the corresponding entry.

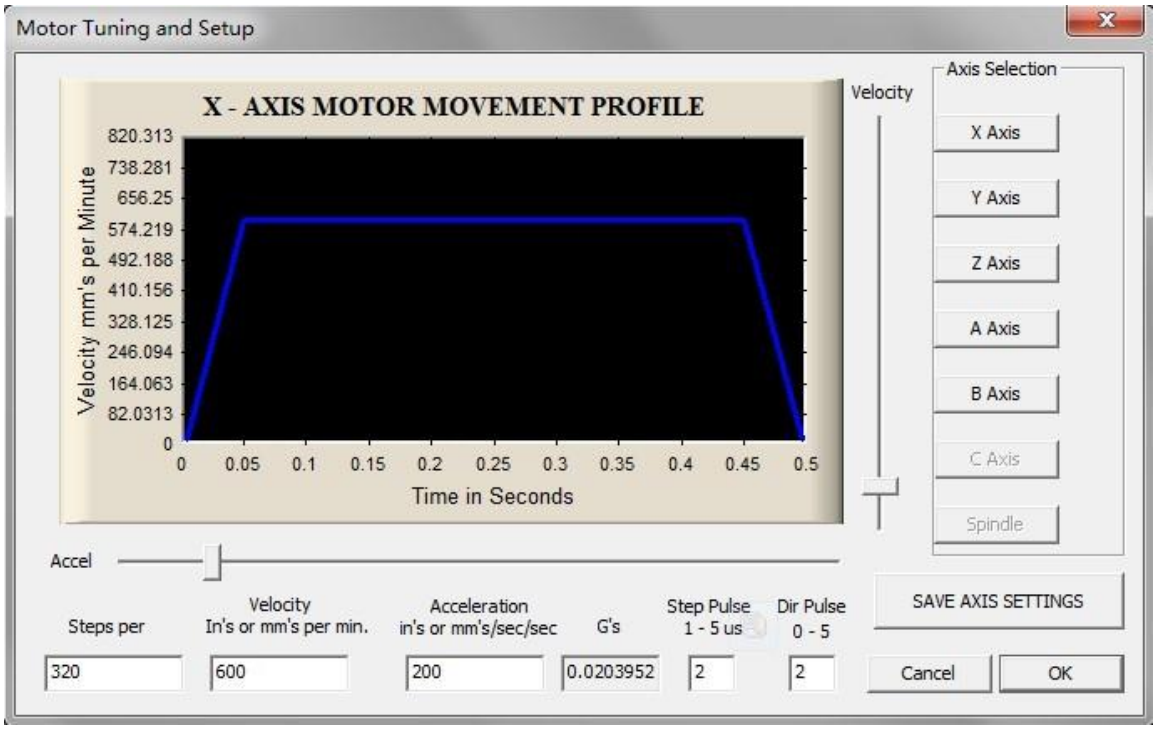


Figure 7

Motor references about the settings in Motor turning and Setup, please set them shown as Figure 7. Please set each Axis with the above “Neutral values” for test: “320 steps, 600mm/min, 200 mm’s/sec/sec, 2 Step Pulse and 2 Dir Pulse”. Actually, these values can be changed to fit the motors perfectly after being tested again and again.

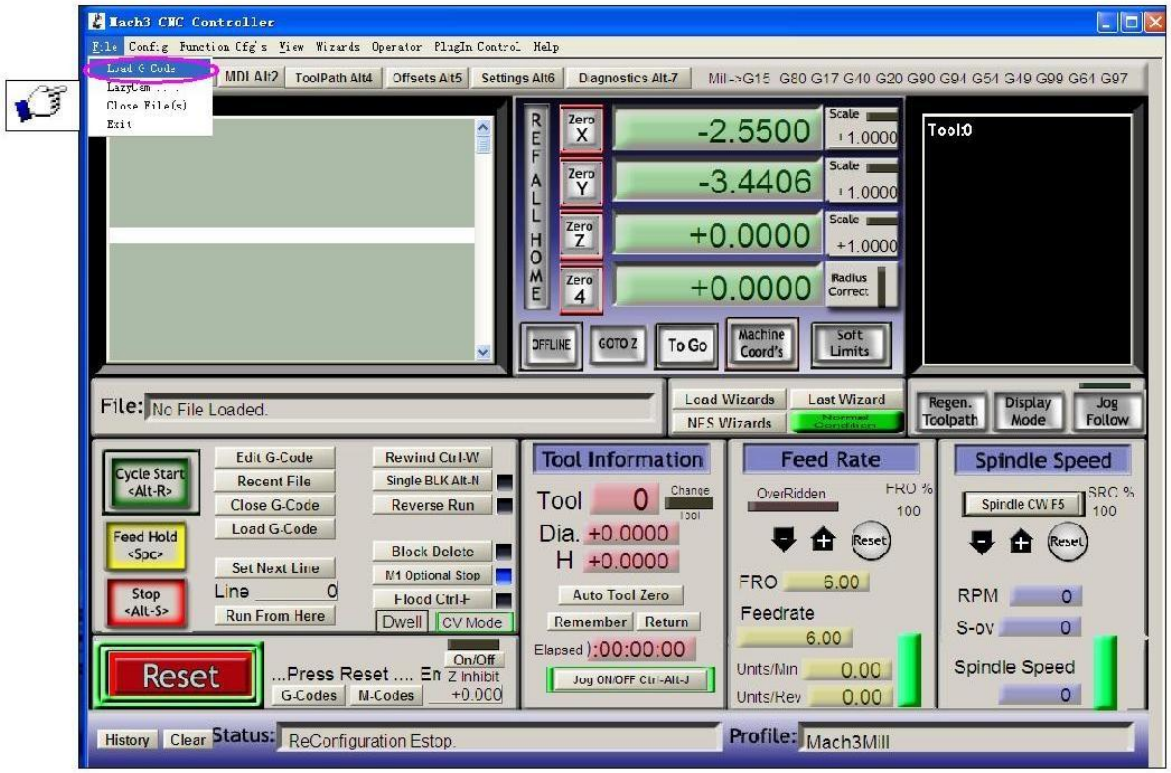


Figure 8

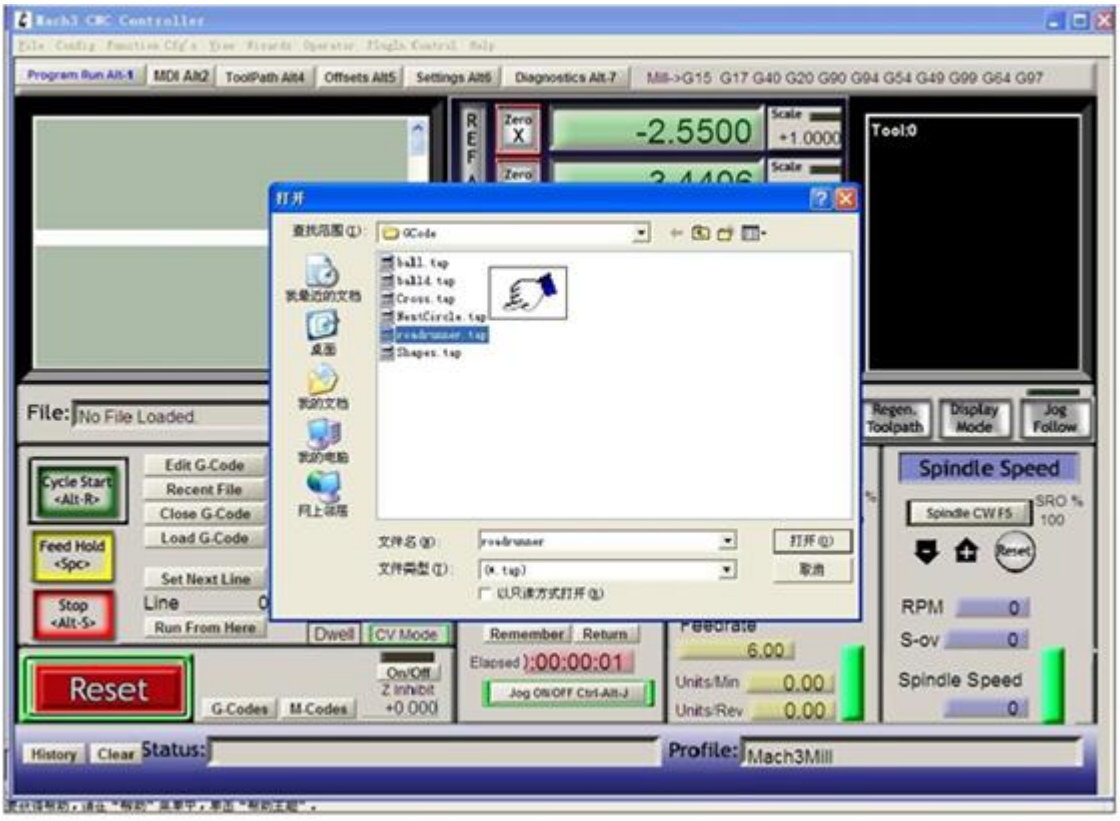


Figure 9

Finish all settings, you can click the “Load G Code” menu and run the G code needed, as shown in Figure 8 and Figure 9.

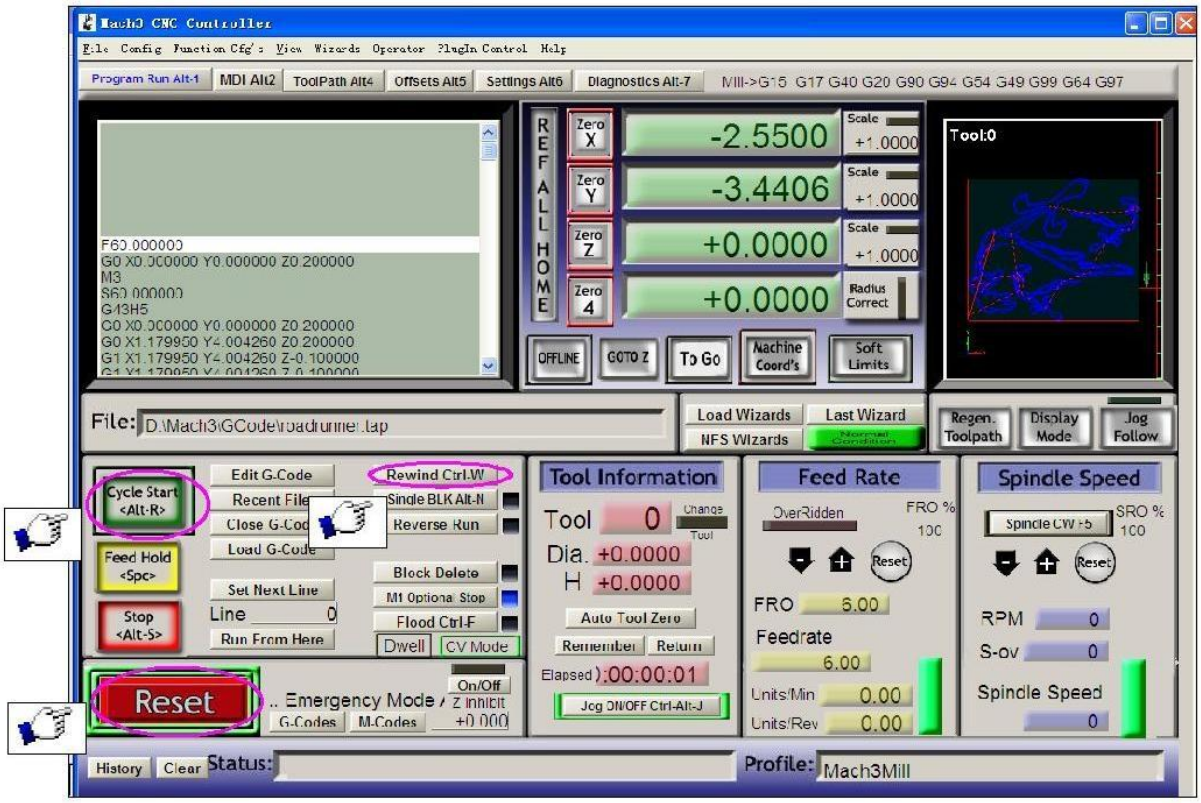


Figure 10

Having loaded the G code, “RESET” can be seen flashing red, you can use mouse to click the “RESET” make it stop flashing, then you can press the “CYCLESTART” button to run, detailed shown in Figure 10.

Contact us:

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