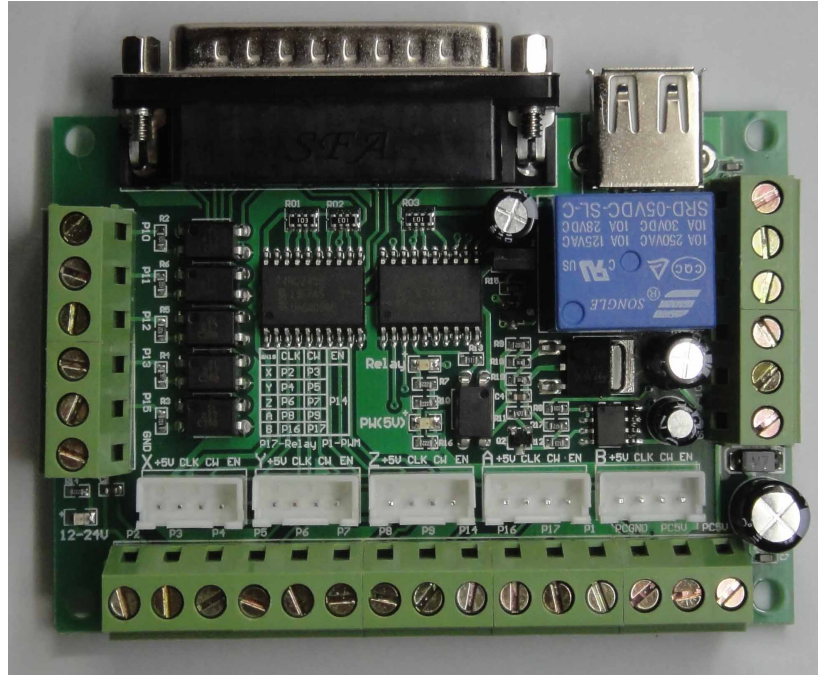


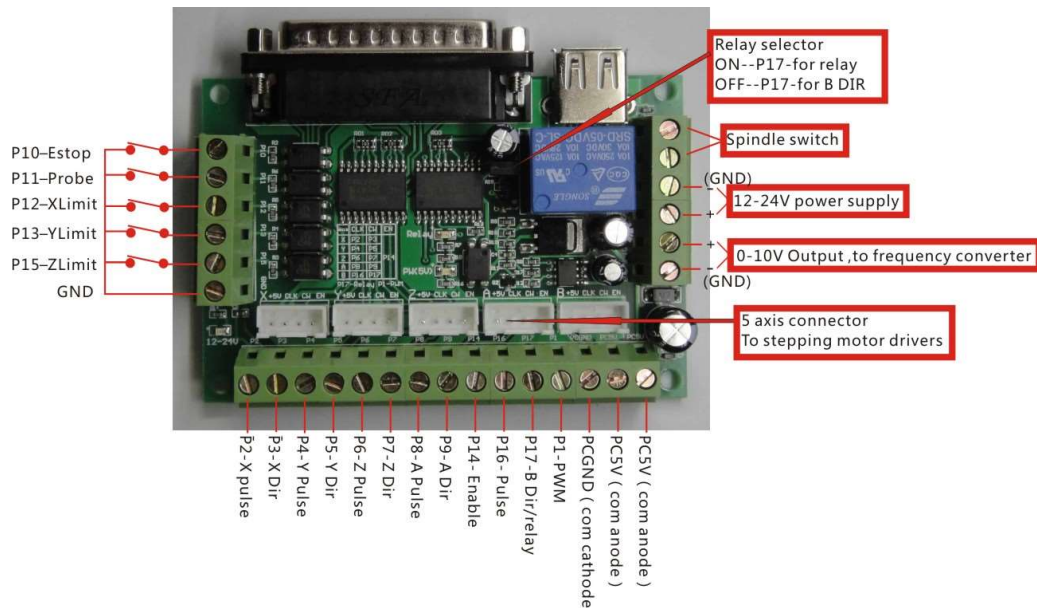
MACH3 5 axis CNC interface board instruction



Functions and Features:

- 1、 Completely support MACH3 and the other softs that use LPT port.
- 2、 USB Power supply and external power supply separate, for protecting your PC.
- 3、 Wide range external power supply voltage , 12 - 24V, and has preventing reverse connection function.
- 4、 All the input signals are separated by photocouplers, can be connected to Estop, Probe and Limit switches. To make your computer safe.
- 5、 One relay output ,can be conneted to spindle switch. Using P17.
- 6、 0-10V photocoupler separated analog voltage output, can be connected to Frequency converter, using to control the spindle speed。 Using P1.
- 7、 All 17 LPT ports are available, can be connected to stepping motor drivers, can control five stepping motor.
- 8、 P1 can be used to output PWM signal, and can control the spindle Speed Regulator that has a photocoupler for input.
- 9、 Can be connected to stepping motor drivers using common anode or common cathode input connection.
- 10、 All of the LPT port names are printed on board, Easy to be used.

Function Wiring diagram:



Note: all the settings below is for common anode connection between this interface board and the stepping motor drivers.

MACH3 soft setting:

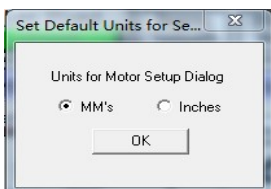
A、First check MACH3 driver is install well:



note: “Mach3 Driver” can’t has “!” or “?”.

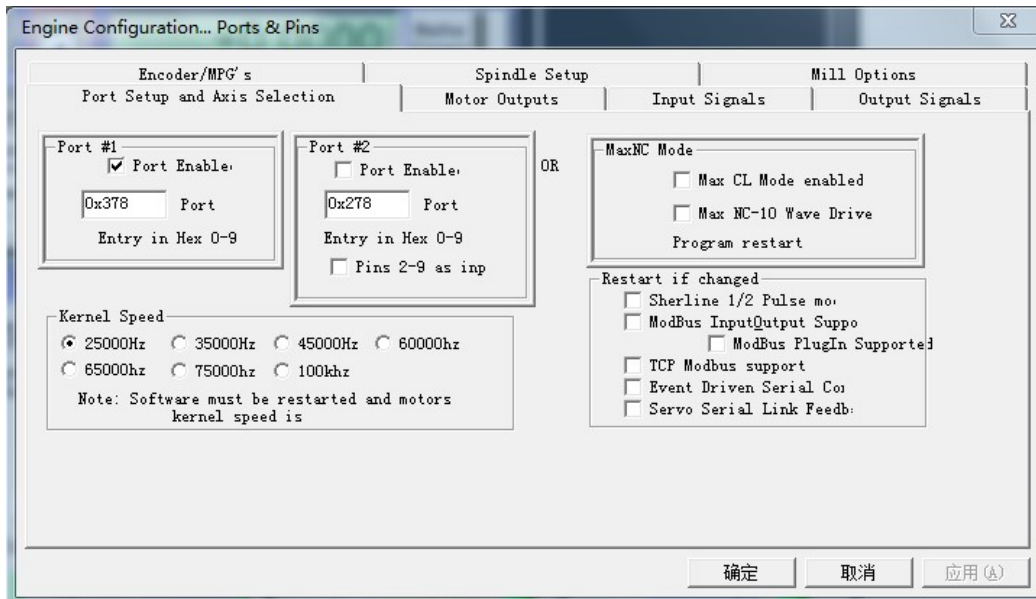
B、Soft setting:

1、Unit select. Select unit: on menu “config” —select native units--- select MM.

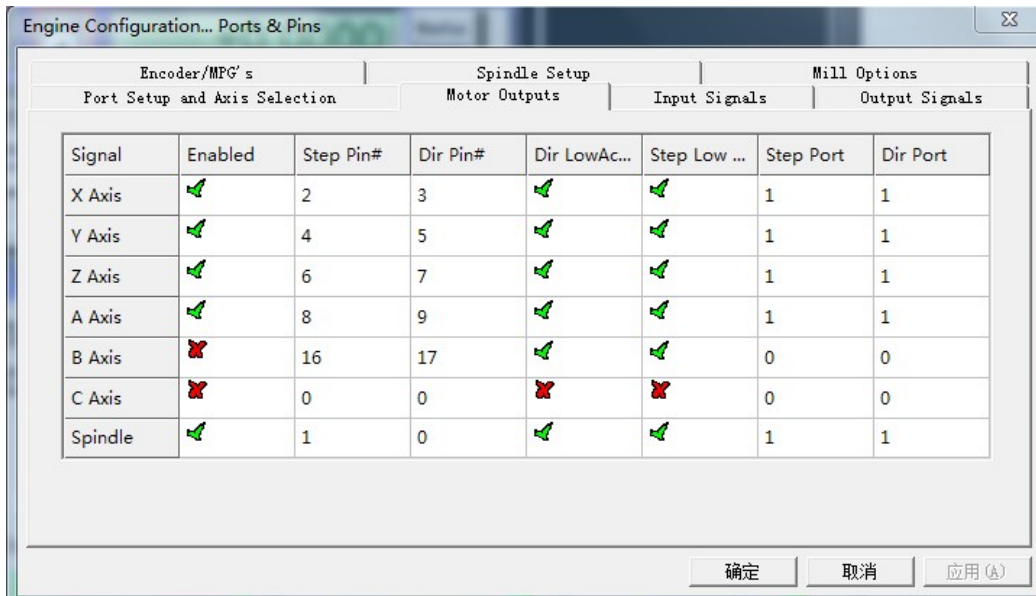


2、Ports and pins:

(1)、Port setup and axis selection: note--**make sure you have save your changes.**



(2)、Motor outputs: set as the below diagram。



note: the motor turning direction is relevant to its connection , if the direction is not right, you can adjust “Dir LowActive” as on the diagram。

(3)、input signals: set as below, then click the “confirm” button。

Engine Configuration... Ports & Pins

Encoder/MPG's			Spindle Setup		Mill Options	
Port Setup and Axis Selection			Motor Outputs	Input Signals	Output Signals	
Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
X ++		1	12			0
X --		1	12			0
X Home		0	0			0
Y ++		1	13			0
Y --		1	13			0
Y Home		0	0			0
Z ++		1	15			0

Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be

Automated Setup of Inputs

确定 取消 应用 (A)

Engine Configuration... Ports & Pins

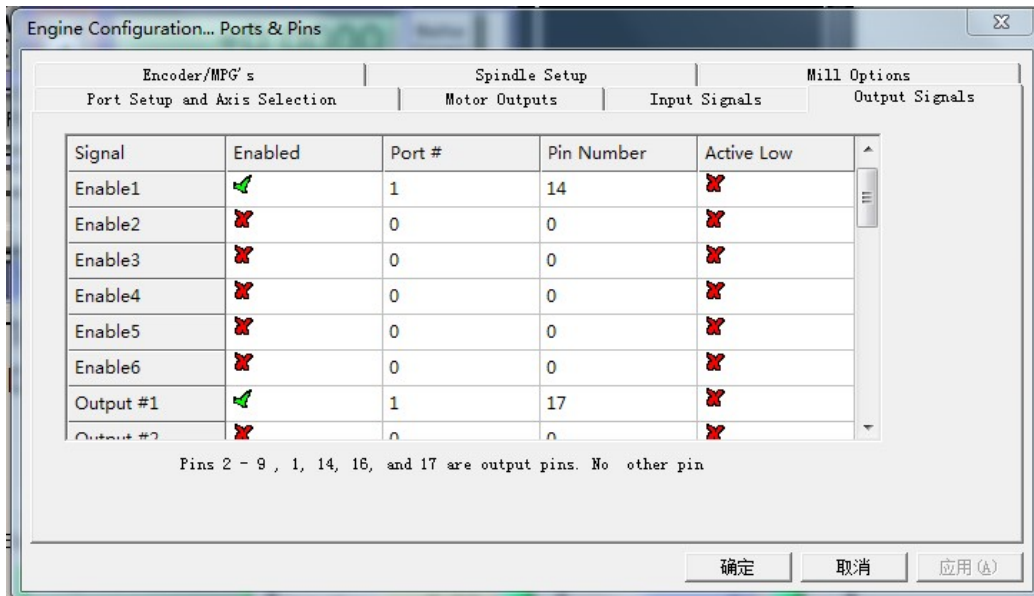
Encoder/MPG's			Spindle Setup		Mill Options	
Port Setup and Axis Selection			Motor Outputs	Input Signals	Output Signals	
Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
Input #3		0	0			0
Input #4		0	0			0
Probe		1	11			0
Index		0	0			0
Limit Ovrld		0	0			0
EStop		1	10			0
THC On		0	0			0

Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be

Automated Setup of Inputs

确定 取消 应用 (A)

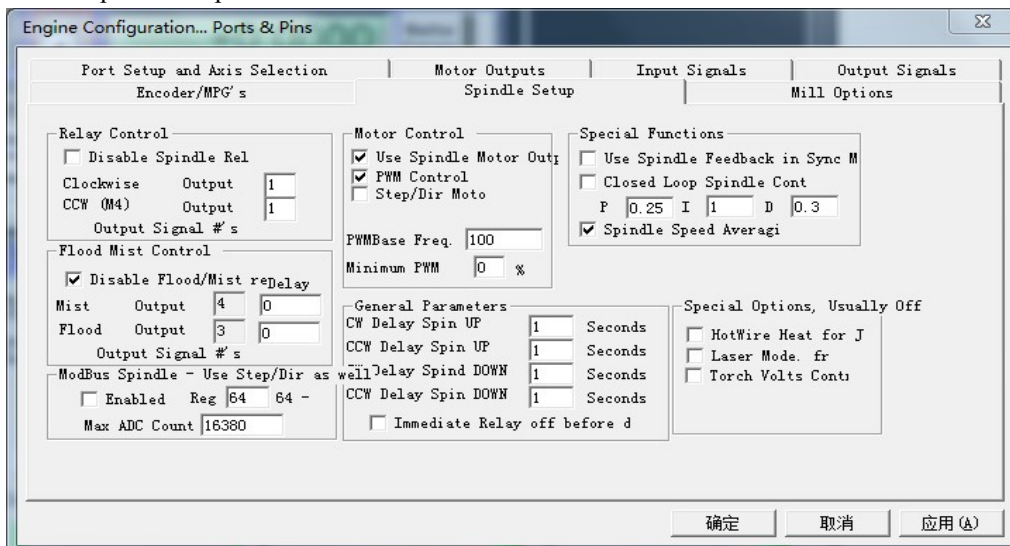
(4)、Output signals: set as below, then click the “confirm” button。



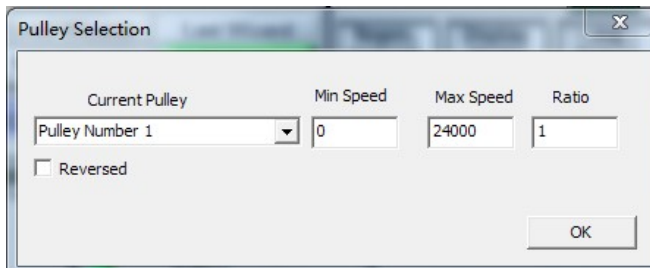
Enable1: setting motor enable setting. --p14

Output #1: spindle relay switch setting. --P17

(5)、Spindle setup:

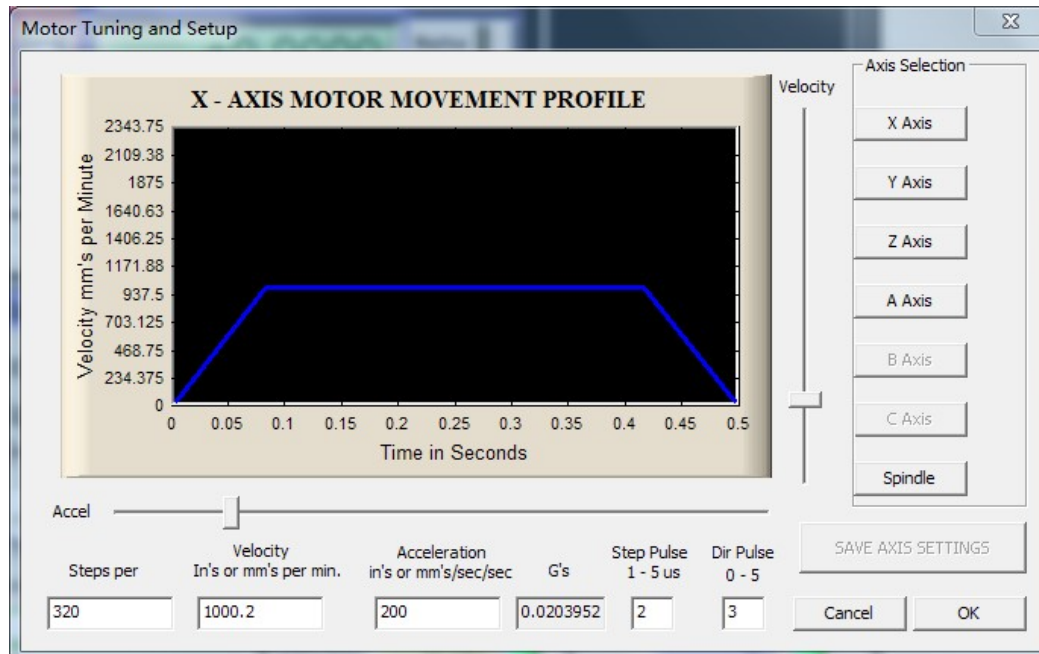


Using PWM to control the spindle speed, also need to set "spindle pulleys" as below:



3、Motor turning:

This is relate to the screw pitch and the excitation mode of the motor driver. The below diagram setting is base on 5MM screw pitch and excitation mode is 8.



“Steps per” means how many steps it need for moving 1 MM.
The seting of Y、Z、A axis is similar to X, and have to save the settings after all.

4、System hotkeys setup:

The figure shows the 'System HotKeys Setup' window. It has two main sections. The left section is 'Jog Hotkeys' with a table of ScanCodes for X++, X--, Y++, Y--, Z++, and Z--. The right section is 'External Buttons - OEM Codes' with a table of Trigger # and OEM Code values.

Jog Hotkeys	
ScanCode	ScanCode
X++ 39	X-- 37
Y++ 38	Y-- 40
Z++ 33	Z-- 34

External Buttons - OEM Codes	
Trigger #	OEM Code
1	-1
2	-1
3	-1
4	-1
5	-1

Set the hotkeys of X、Y、Z axis as this diagram, then you can control the motors by this hotkeys on the keyboard.