

4 Axis (X, Y, Z,A) Stepping Motor Controller (TA8435)

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Presents by

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This is a 4 Axis (X,Y,Z,A) CNC stepping motor controller/Driver. It built-in a spindle relay and all input is optical isolated that providing safer (no feedback to your PC) and better response time. Support Mach2, Mach3, KCam. You can apply this card to a CNC machine or upgrade your old CNC machine to take advantage of new technology. It works for CO2 laser machine as well

Features:

- * Optical isolation for data In/Out
- * Relay control for spindle (or laser)
- * Four step speed setting
- * High current Output
- * Big Heat sink support up to 2.5A

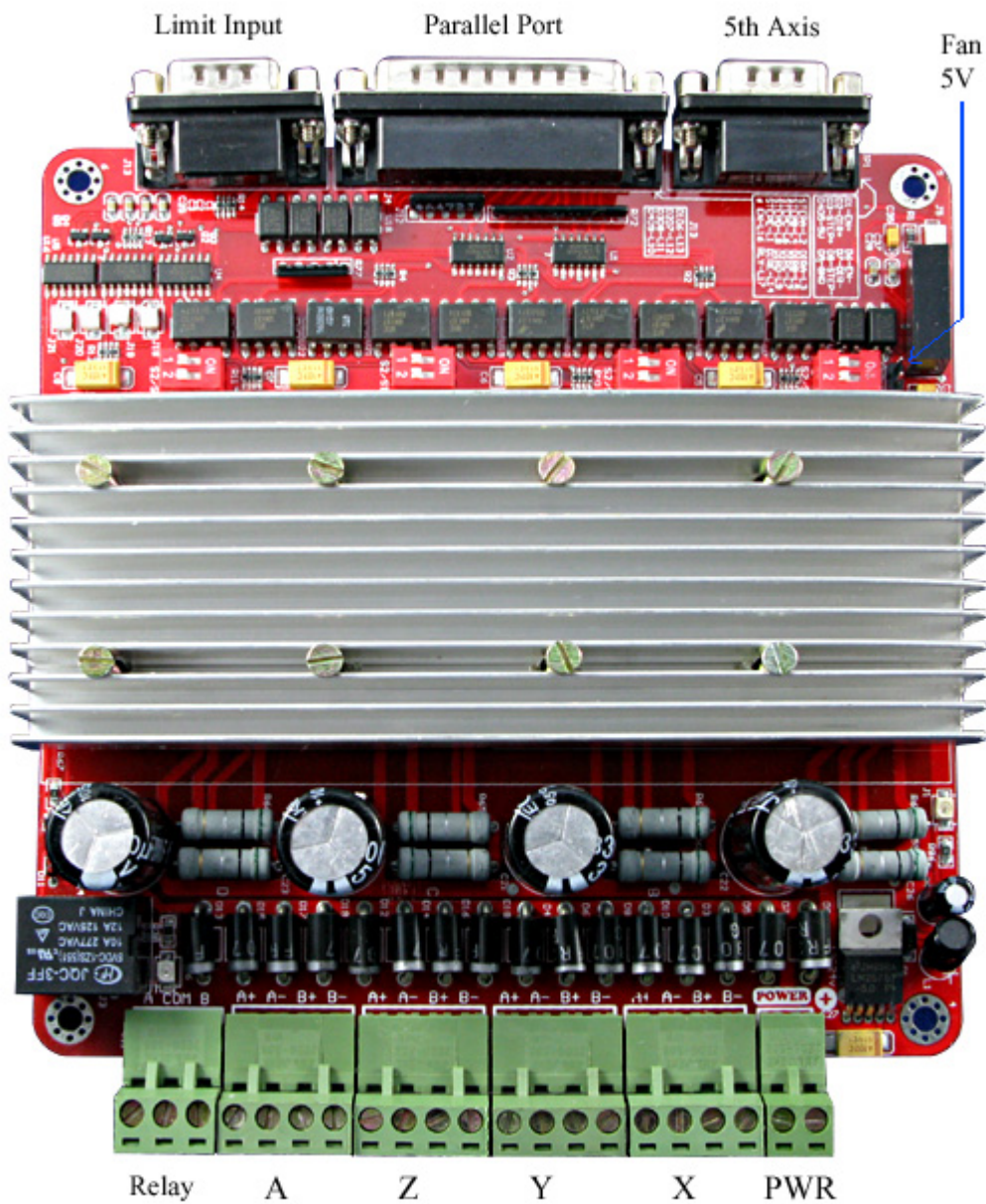
Specification:

- * In/Out Interface port: Parallel
- * Built in Relay control for spindle
- * Support 2/4 phases 4, 6, 8 wires stepping motor
- * High speed optical isolation coupling
- * LED indicators for each Axis & Relay
- * Current: 1.5A default (2.5A max)
- * Resolution: 1/8, 1/4, 1/2, 1
- * Power: Single DC 12 ~ 36V (recommend 24V)
- * Control port: DB manual control interface
- * CAD system support: March2, Mach3, KCam

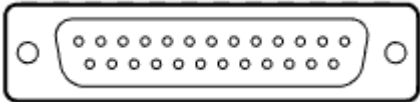


ColdfusionX
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Board Overview



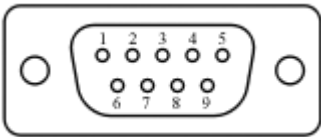
DB 25 Connector Pin layout



PIN1	PIN2	PIN3	PIN3	PIN5	PIN6	PIN7	PIN8	PIN9	PIN10
CKE	CKA	CWA	CKB	CWB	CKC	CWC	CKD	CWD	DIN1
E STEP	A STEP	A DIR	B STEP	B DIR	C STEP	C DIR	D STEP	D DIR	Limit1
PIN11	PIN12	PIN13	PIN14	PIN16	PIN17	PIN18-25			
DIN2	DIN3	DIN4	CWE	EN	RLY	GND			
Limit2	Limit3	Limit4	E DIR	Enable	Relay	Ground			

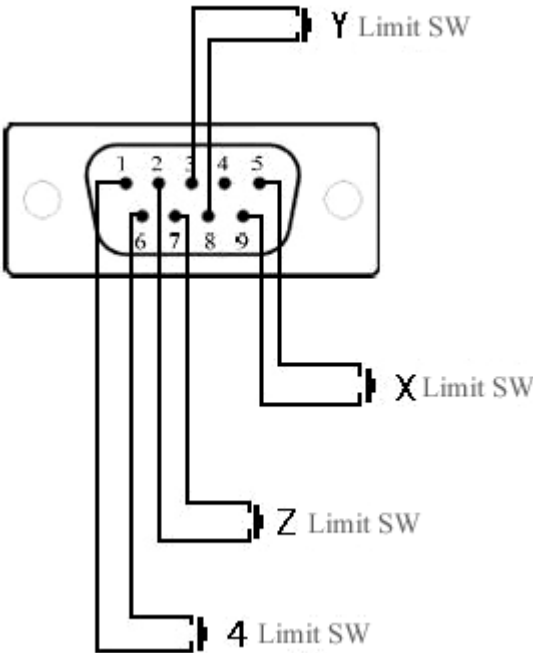
DB 9 Connector

- 5th Axis expansion



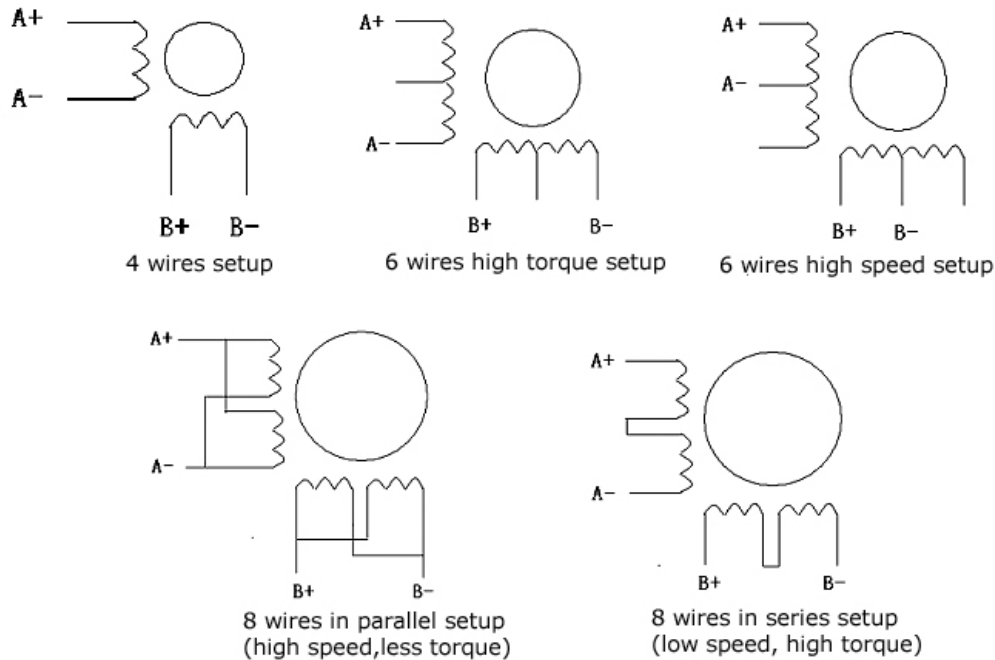
P1	P2	P3	P4	P5	P6	P7	P8	P9
EN +	DIR+	PU+	NA	+5V (out)	EN-	DIR-	PU-	GND
Enable	Direction +	Pulse +	NA	5V Power	Enable -	Direction -	Pulse -	Ground

- Limit Sensor Input



P1	P2	P3	P4	P5	P6	P7	P8	P9
A	Z	Y	NA	X	GND	GND	GND	GND
A input	Z input	Y input	NA	X input	Ground	Ground	Ground	Ground

2 phases, 4 phases stepping motor connection diagram (current 2A max)



Power

The controller can take DC 12~32V power input. The power supply should be able to provide at least 3A current in order to support smooth operation.

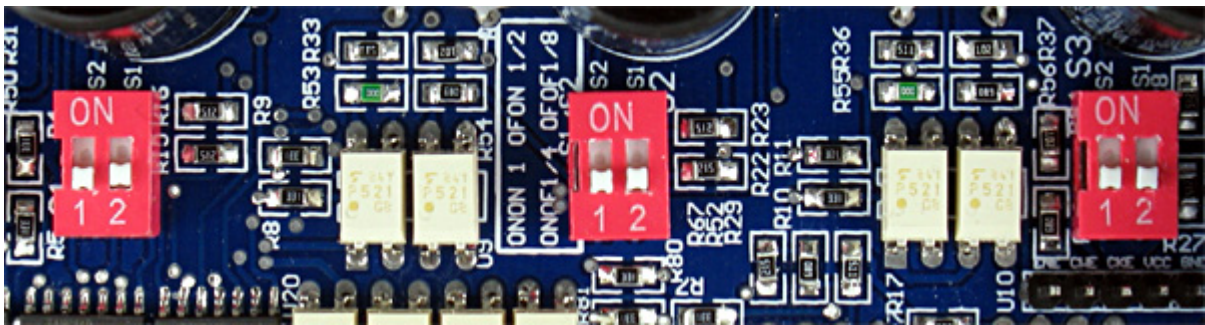
Home Limit and Emergency Stop Input pin

Note: All Limit Input are Active Low *

5th Axis Expansion Output pin

CW = PIN #14. It's used to output PWM signal as well. Or, you can use the output from #14 to trigger a 'Fire' signal for CO2 laser. The output level is +5 pulse so the CO2 power supply must support +5V triggering!

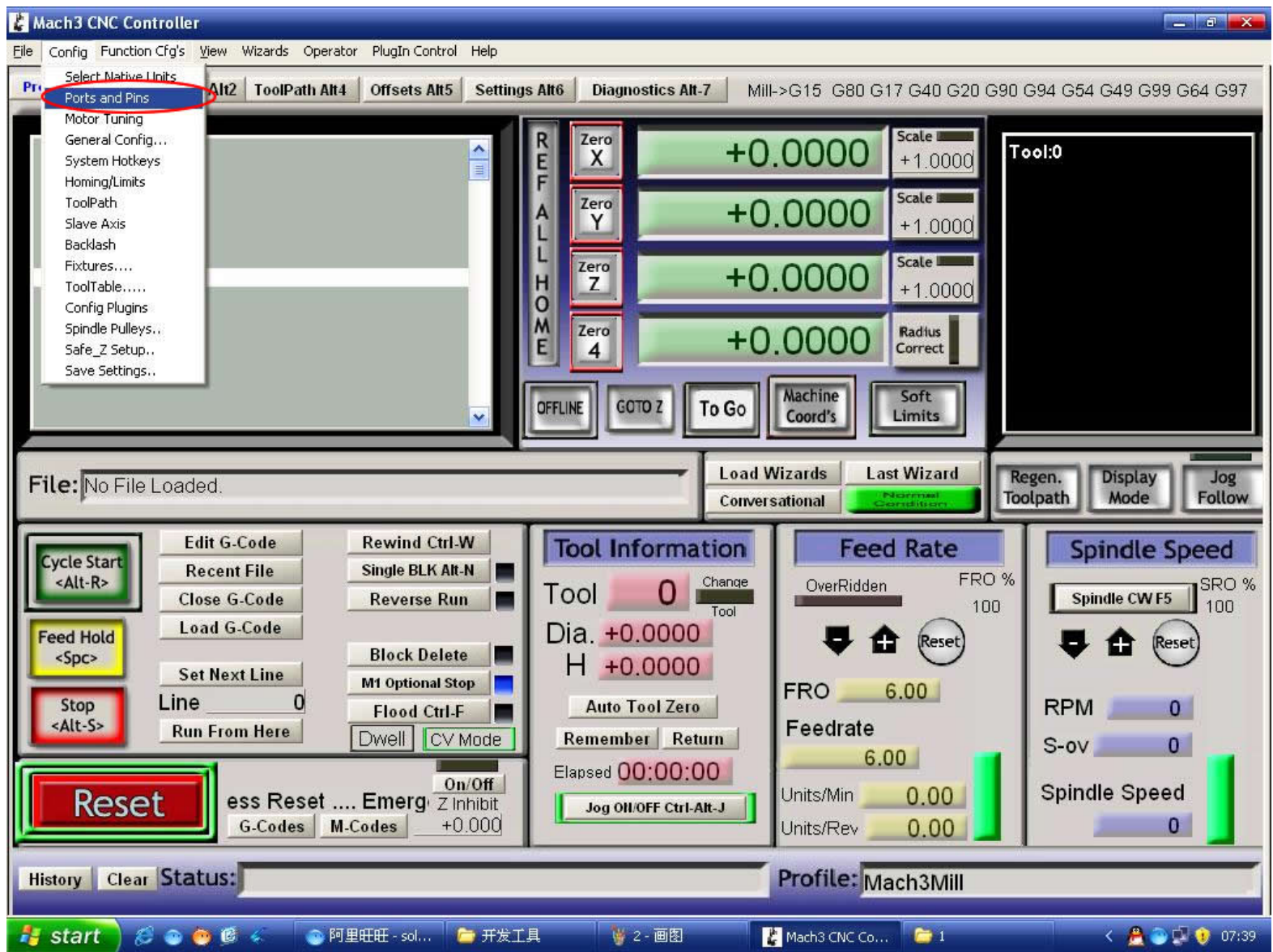
Resolution/ Speed Setting for X,Y,Z Stepping Motor

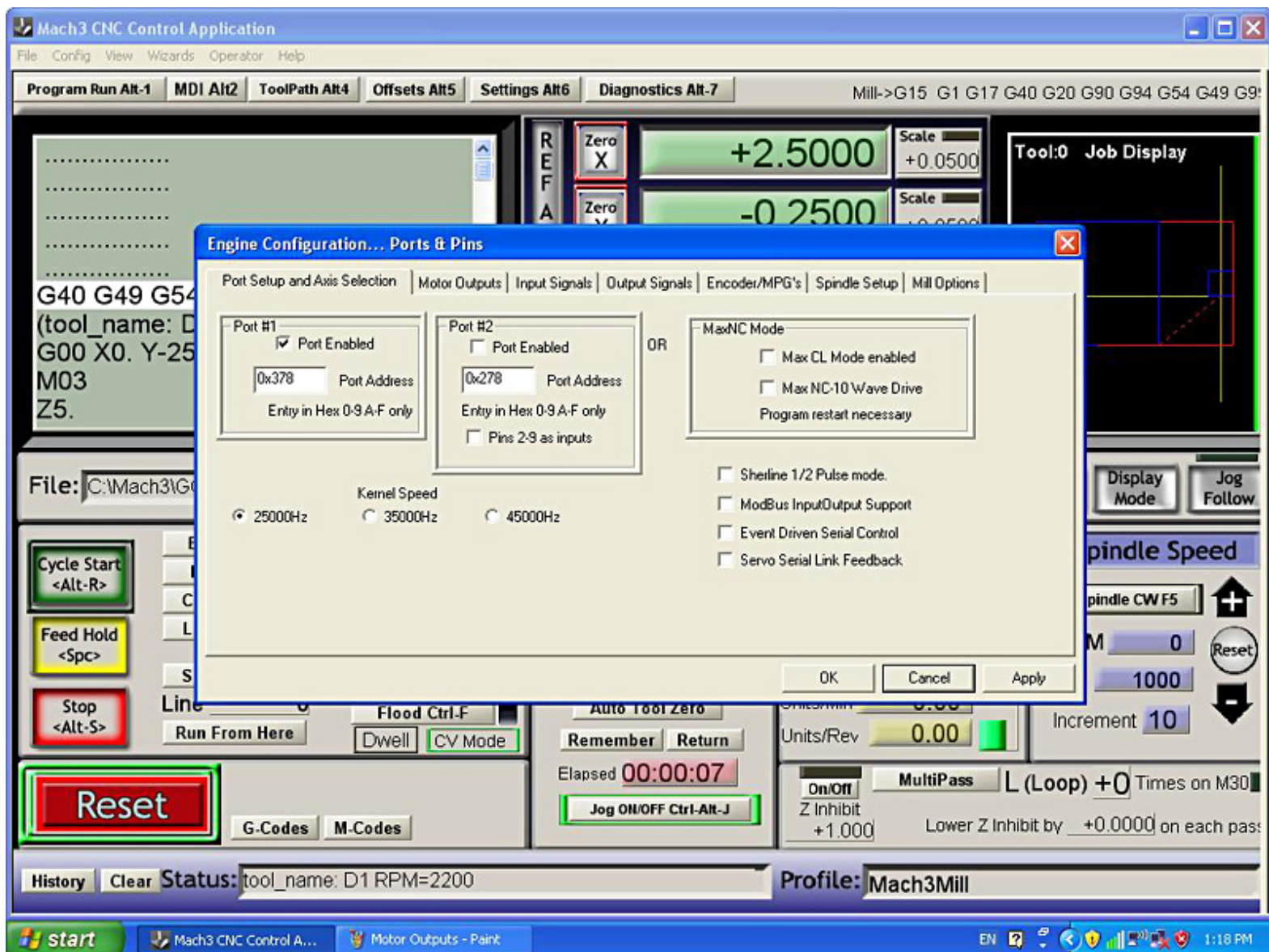


Full STEP	1/2 STEP	1/4 STEP	1/8 STEP
1 – On	1 – Off	1 - On	1 - Off
2 - On	2 - On	2 - Off	2 - Of

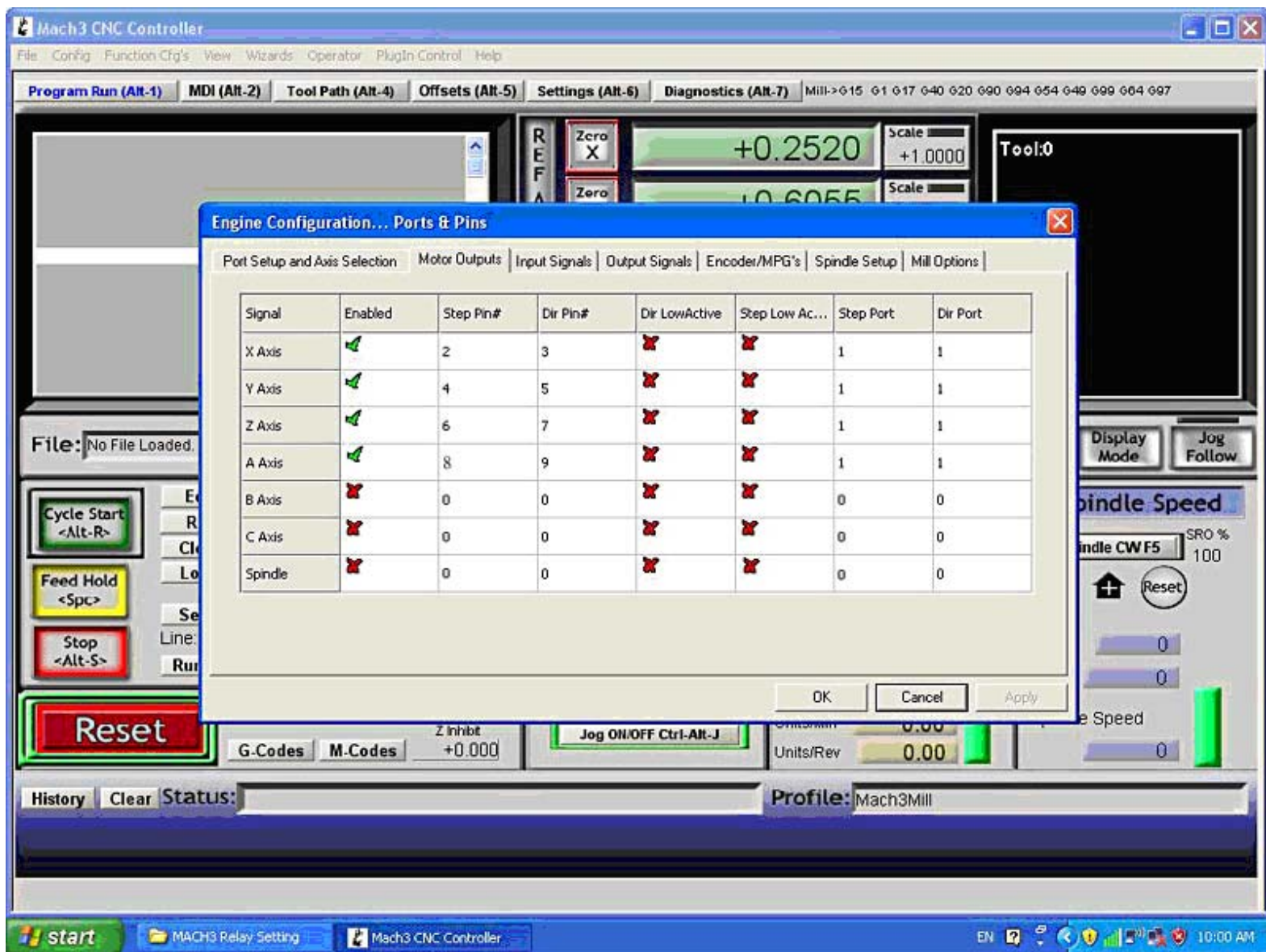
Note: Signal Ground and the Output ground are totally isolated, no physical connection. But all grounds from the optical isolation module share the same ground.

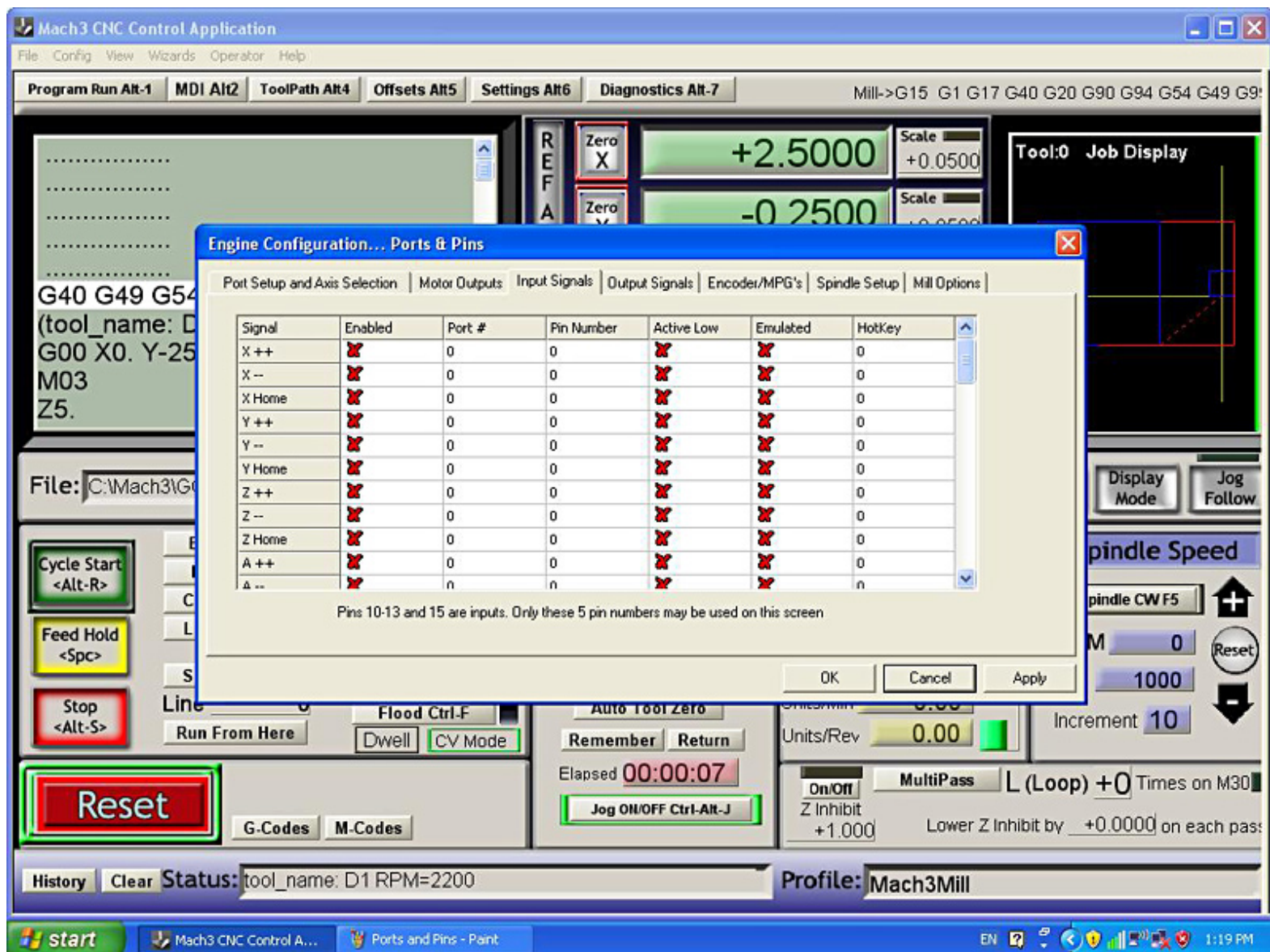
MACH3 Setup. Note: some parameters is in default setting



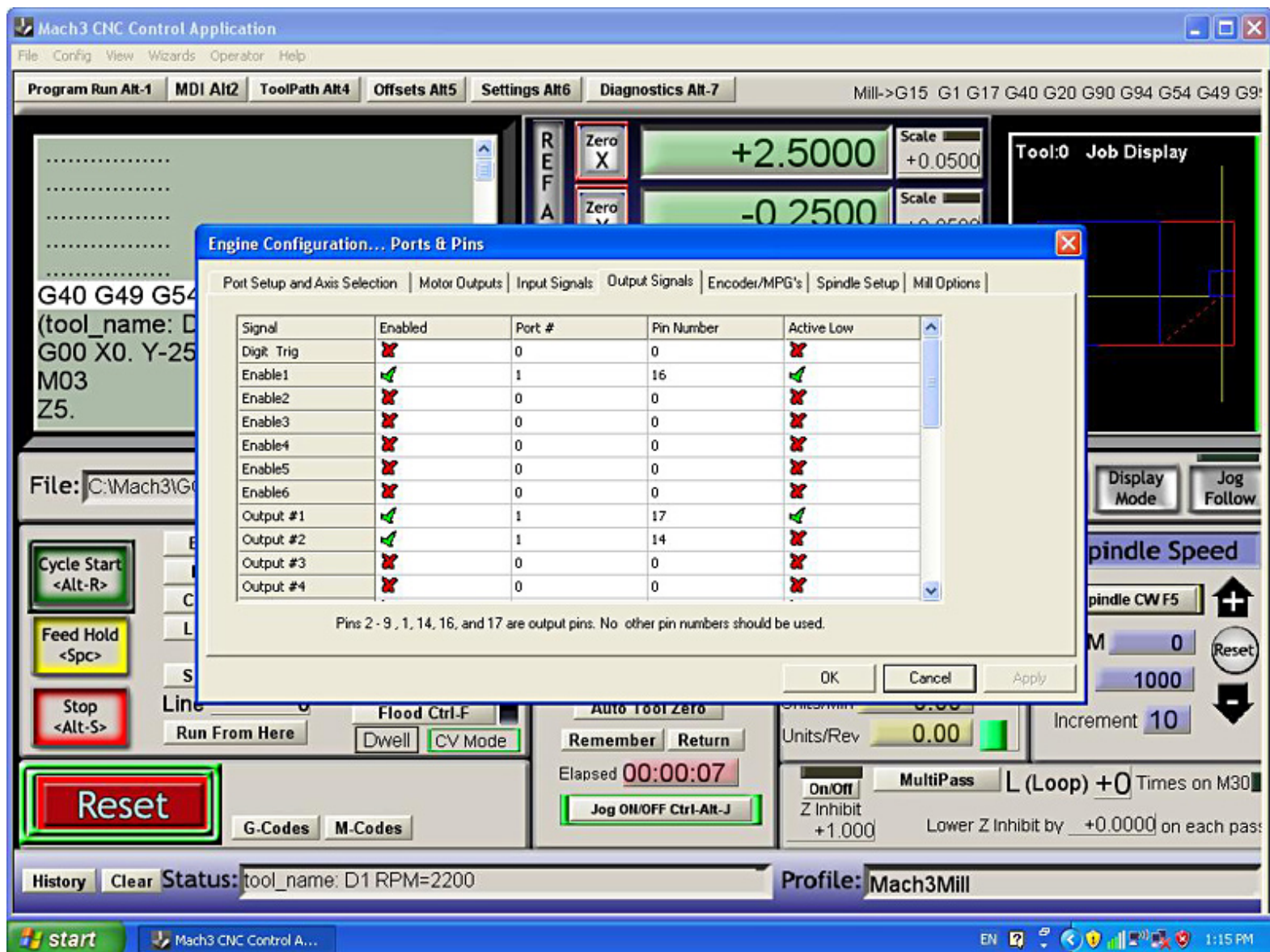


You may set the Kernel speed to 35000Hz

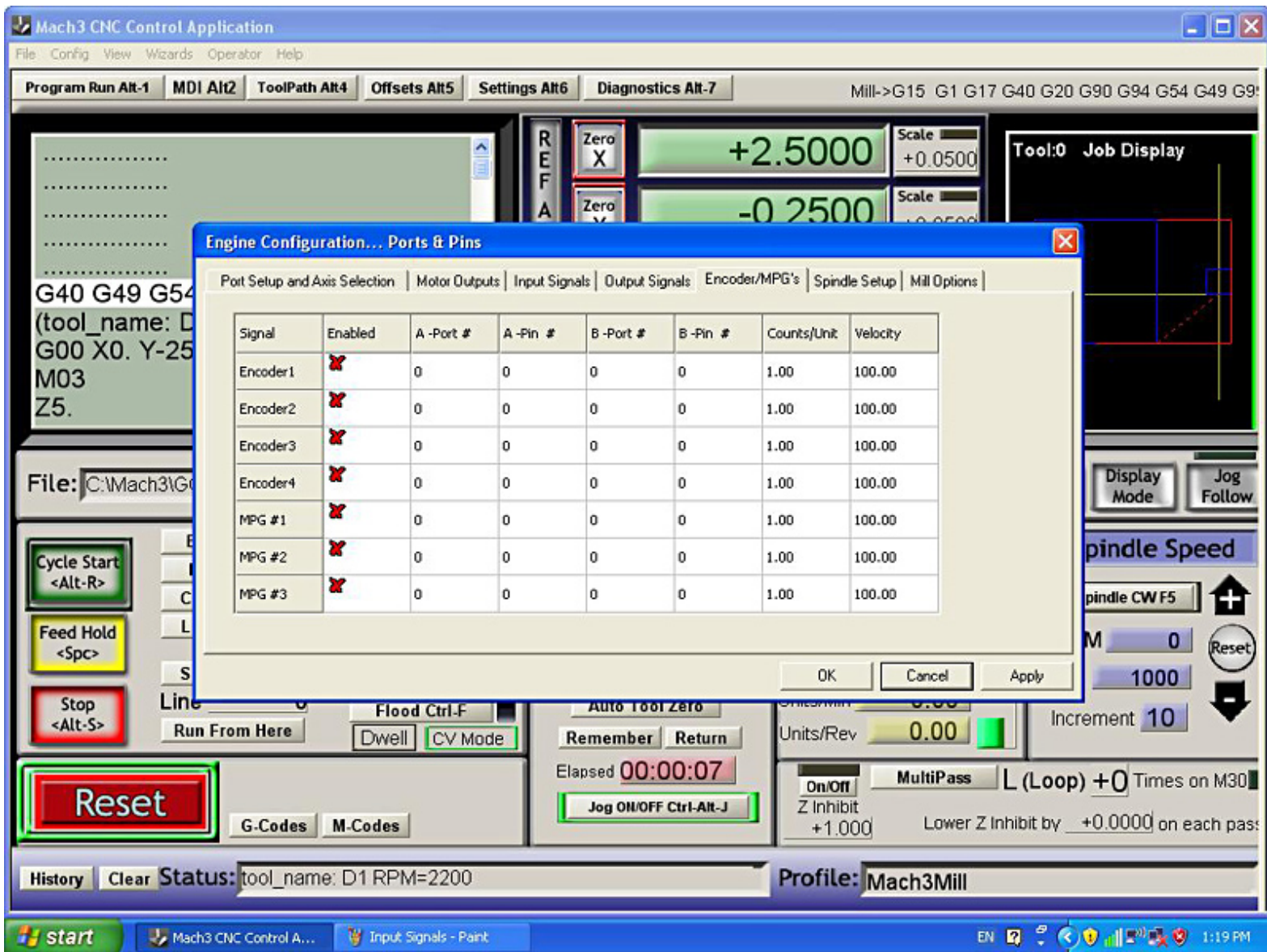


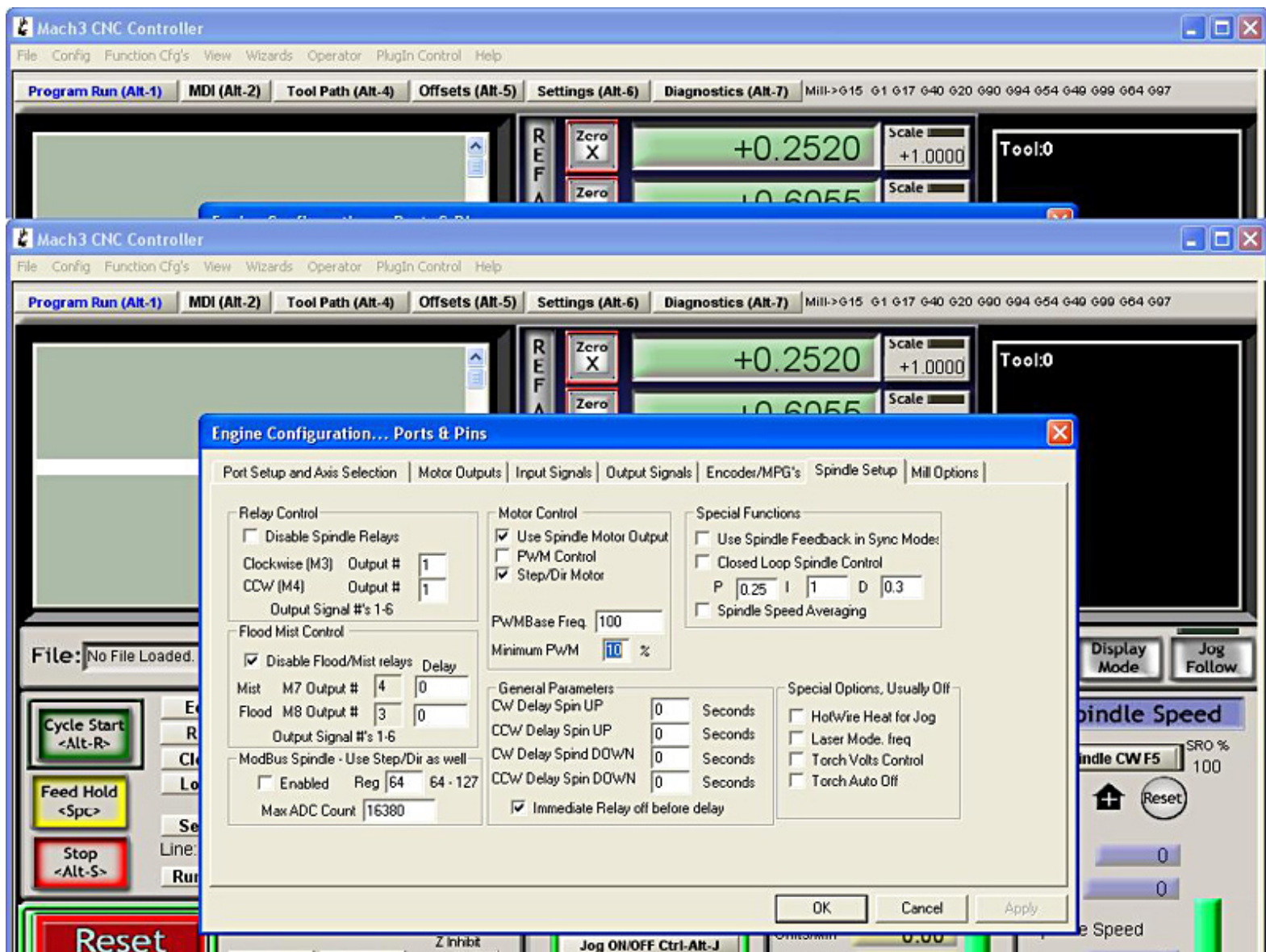


Mach3 provide a function for 'Input' signal auto detection. It's good for home switch testing.

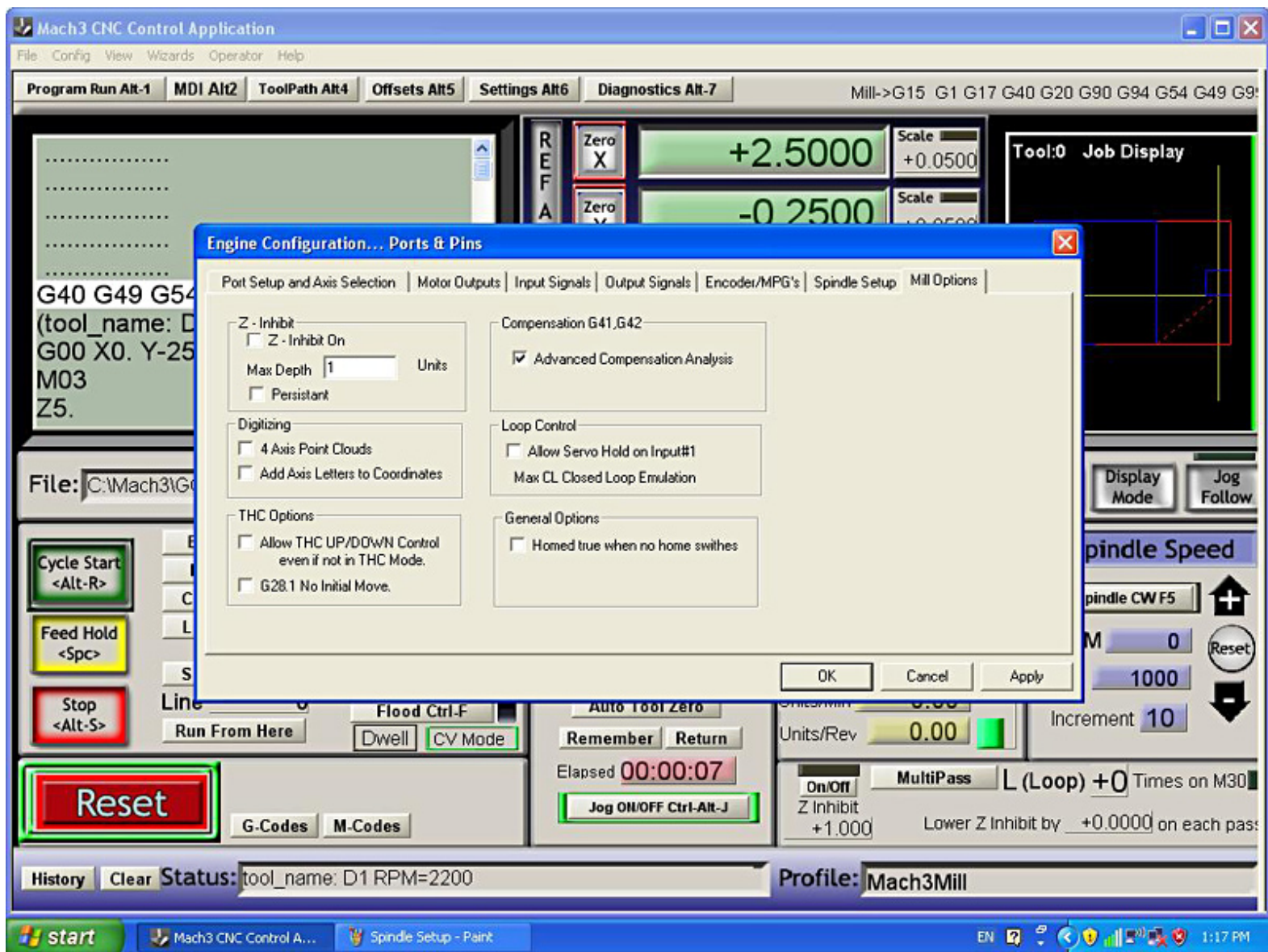


Output #1 and Output #2 is optional.





March3 default setting. Output # by default is set to "1"



March3 default setting.

Please go to Mach3 website <http://www.machsupport.com/> to get more update information. We don't support Mach3 or other 3rd software.

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