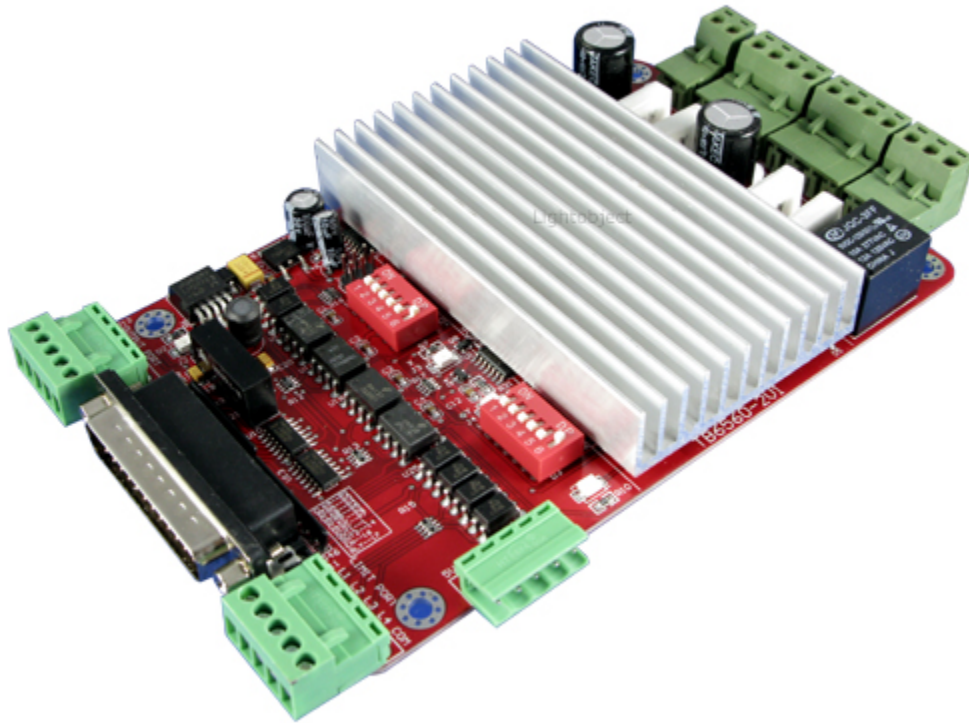


2-Axis Stepping Motor Driver

(Model:TB6560T2V1) Rev1.0 12/01/2010



ColdfusionX
Annex Depot Inc
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by
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The TB6560T2V1 is a high performance 2 Axis (X,Y) stepping motor controller/driver thanks to Toshiba TB6560 chipset. The controller has a spindle relay built-in and all input/output are optical isolated from the external circuit providing 'noise' free environment. The card support Mach2, Mach3, KCam. It can be applied to a CNC machine or upgrade an old CNC machine with this card to take advantage of new technology. It works well for a CO2 laser machine for cutting (software dependable)

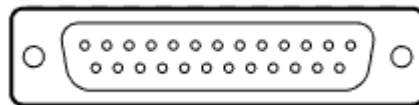
Features:

- * Optical isolation for data In/Out
- * Relay control for spindle (or laser)
- * Four step speed setting
- * High current output 2.5A (3A peak)
- * Big Heat sink support without heat concern.

Specification:

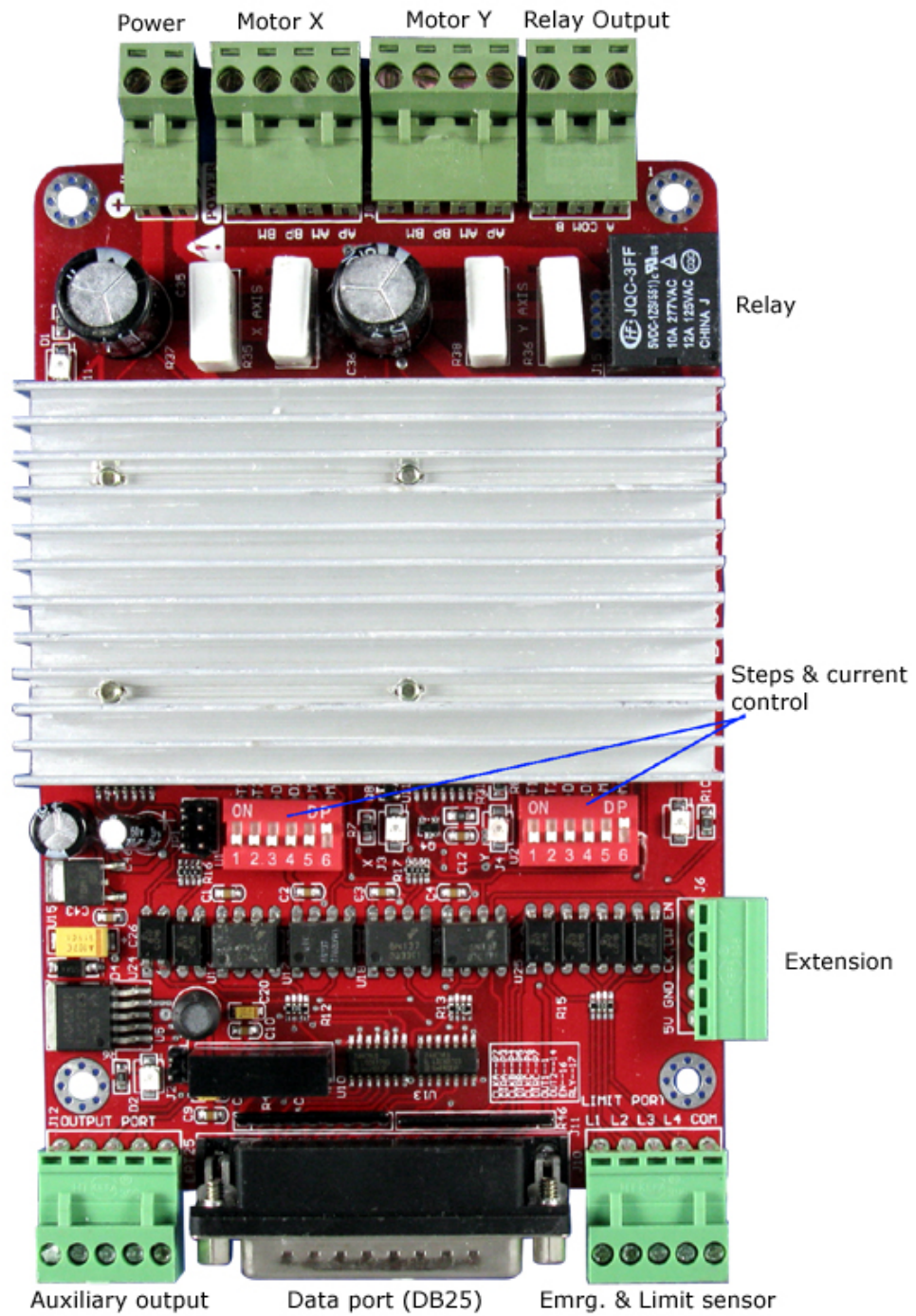
- * In/Out Interface port: Parallel
- * Built in relay control for spindle
- * Support 2/4 phases 4, 6, 8 wires stepping motor
- * High speed optical isolation coupling
- * Built in No. 3 Axis interface for expansion
- * LED indicators for each axis & relay
- * Current: 2.5A r.m.s (3.0A max)
- * Resolution (speed): 1/16, 1/8, 1/2, 1
- * Power: Single DC12 ~ 32V (no separated 5V needed)
- * RC7414 auto half bridge current control
- * Control port: Wheel control interface
- * CAD system support: March2, Mach3

DB 25 Connector Pin layout

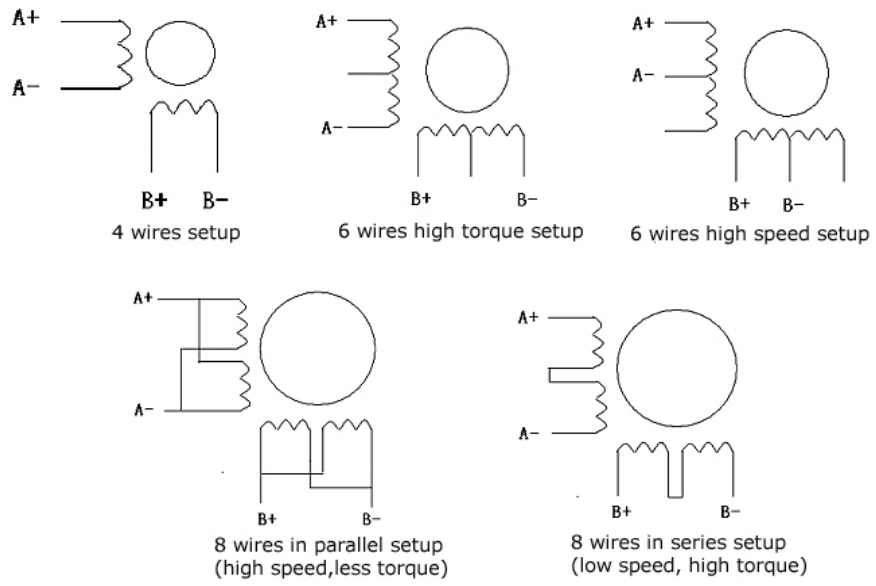


PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7	PIN8	PIN9	PIN10
CKE	CKX	CWX	CKY	CWY	CKZ	CWZ	CKA	CWA	DIN1
E STEP	X STEP	X DIR	Y STEP	Y DIR	Z STEP	Z DIR	A STEP	A DIR	Limit1
PIN11	PIN12	PIN13	PIN14	PIN15	PIN16	PIN17	PIN18-25		
DIN2	DIN3	DIN4	Exp	N/A	EN	RLY	GND		
Limit2	Limit3	Limit4	Expansion	N/A	Enable	Relay	Ground		

Board layout and motor type

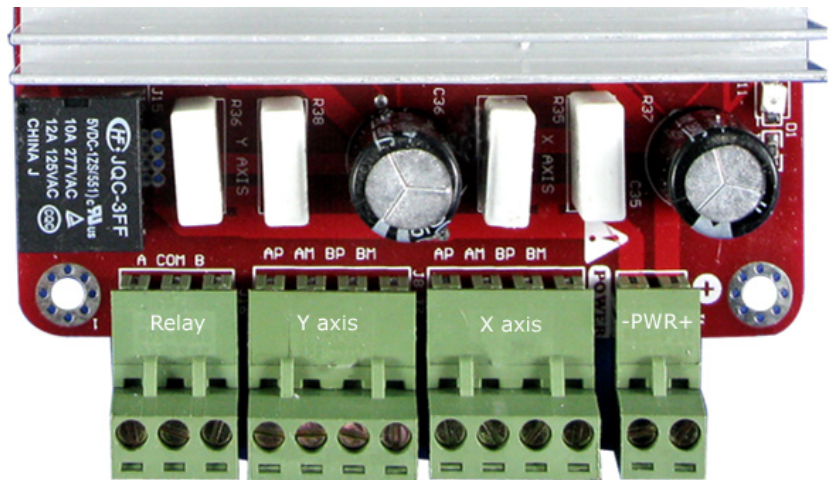


2 phases,4 phases stepping motor connection diagram (current 2A max)



Power Supply

Power for the controller is DC 12~32V. To ensure smooth movement, the power supply should be at least 10A or higher current. DC24V, 15A is recommended.



A-COM: Normally Opened
B-COM: Normally Closed

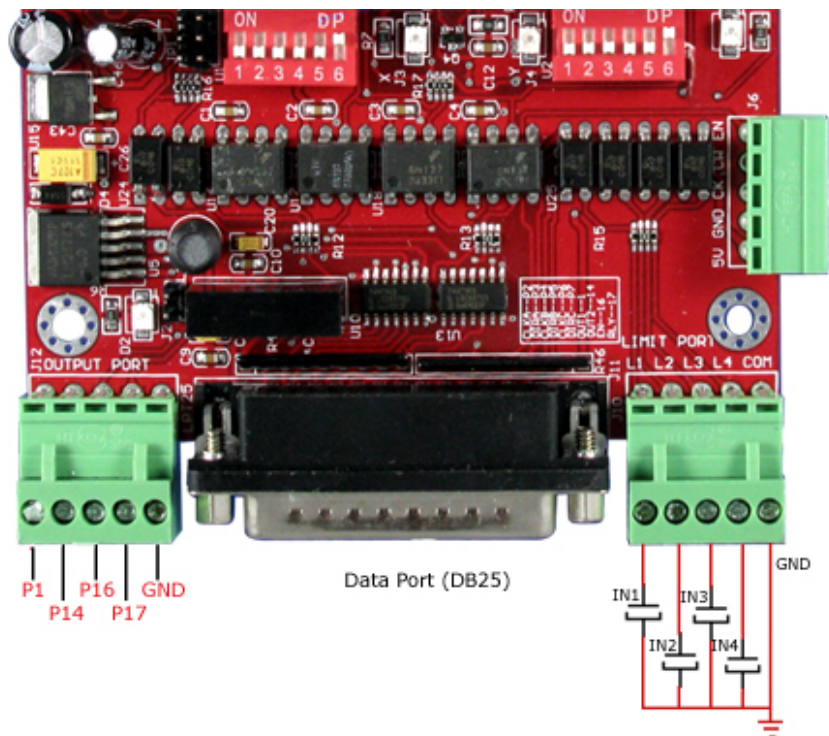
AP= A+, AM= A-
BP= B+, BM= B-

Home Limit and Emergency Stop Input

Note: All Limit Input are Active Low
*

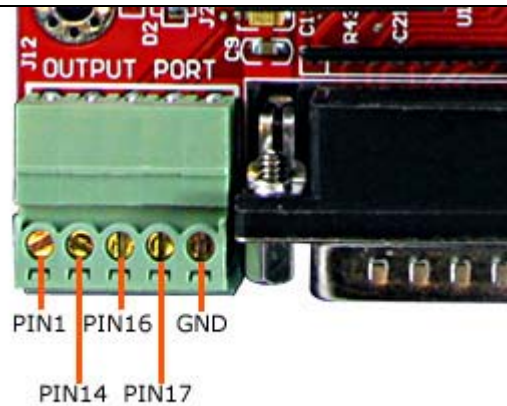
IN1 = Emergency Stop
IN2 = X limit trigger
IN3 = Y limit trigger
IN4 = N/A
GND= Ground

Relay
N.O. = Normally Open
N.C. = Normally Closed



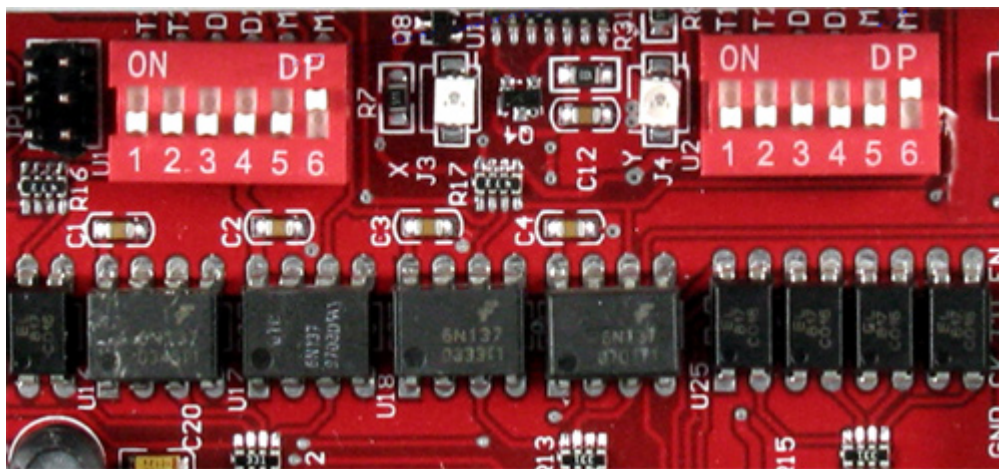
Auxiliary Output port

This port is dedicated to all outputs and it is controllable by Mach3. The pin# is corresponding to the pin number on the parallel port.



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

Note: T1=1, T2=2, D1=3, D2=4, M1=5, M2=6



Current Attenuation and Resolution

Current attenuation setting is used to adjust overshoot or undershoot level for a motor

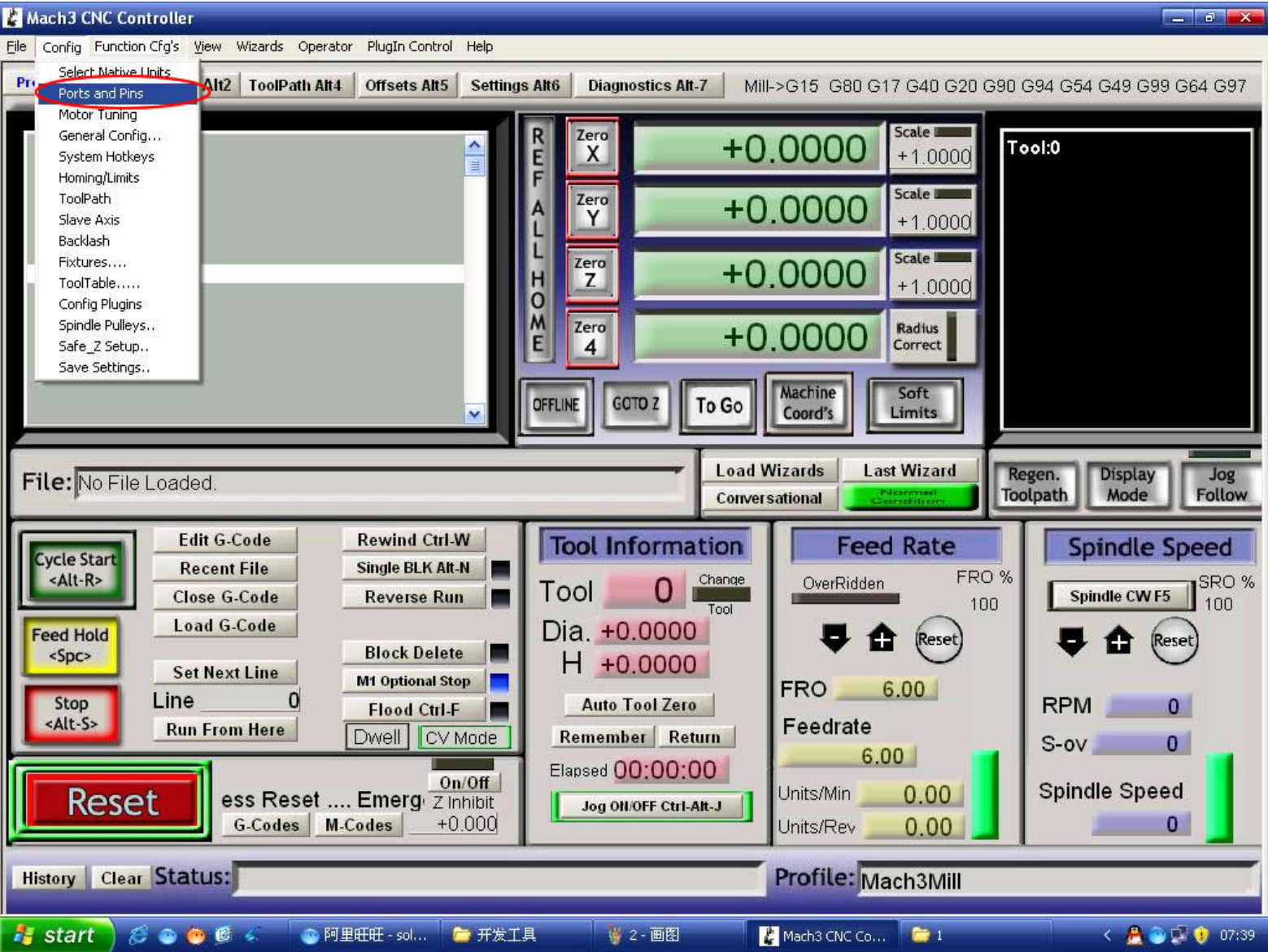
Current Adjustment:

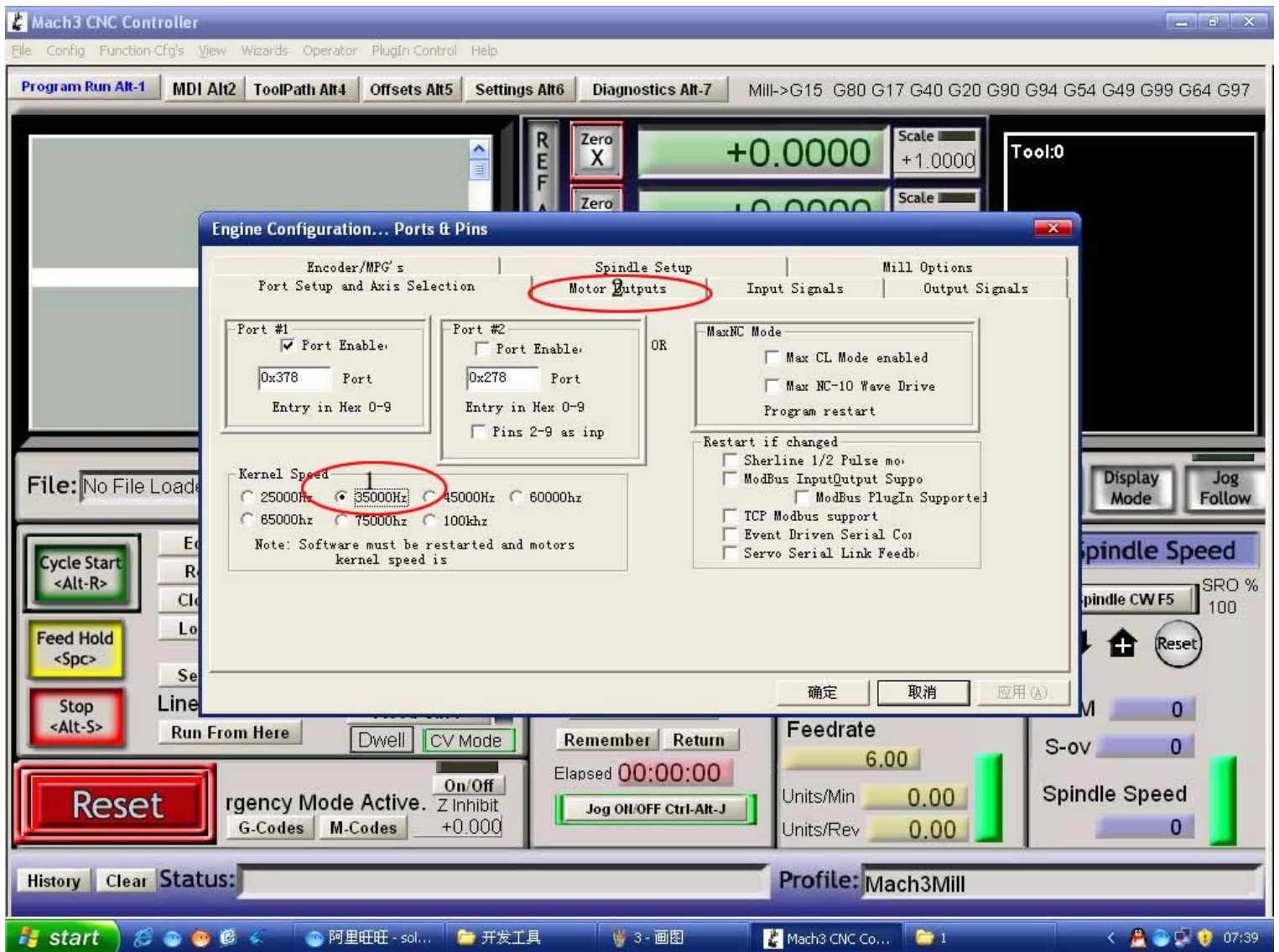
T1	T2	Current
Off	Off	2.5A~3A
On	Off	1.8A~2.25A
On	On	1.25A~ 1.5A
Off	On	0.65A~0.75A

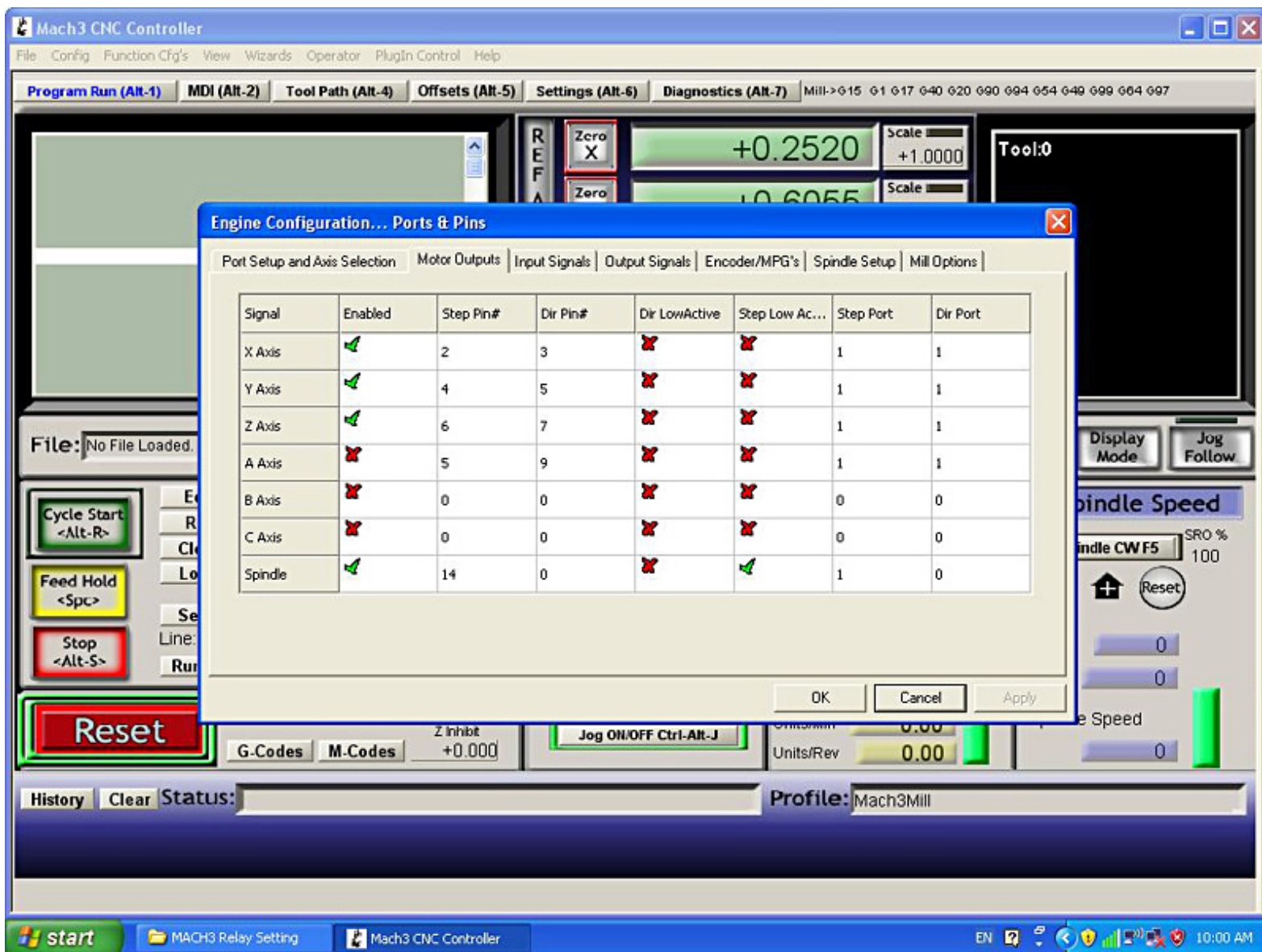
D1	D2	Attenuation Level	M1	M2	Resolution
DIP #3	DIP #3		DIP #5	DIP #6	
ON	ON	100%	ON	Off	1/16
OFF	ON	50%	OFF	OFF	1/8
ON	OFF	25%	OFF	ON	1/2
OFF	OFF	0%	ON	ON	1

Basic MACH3 Setup

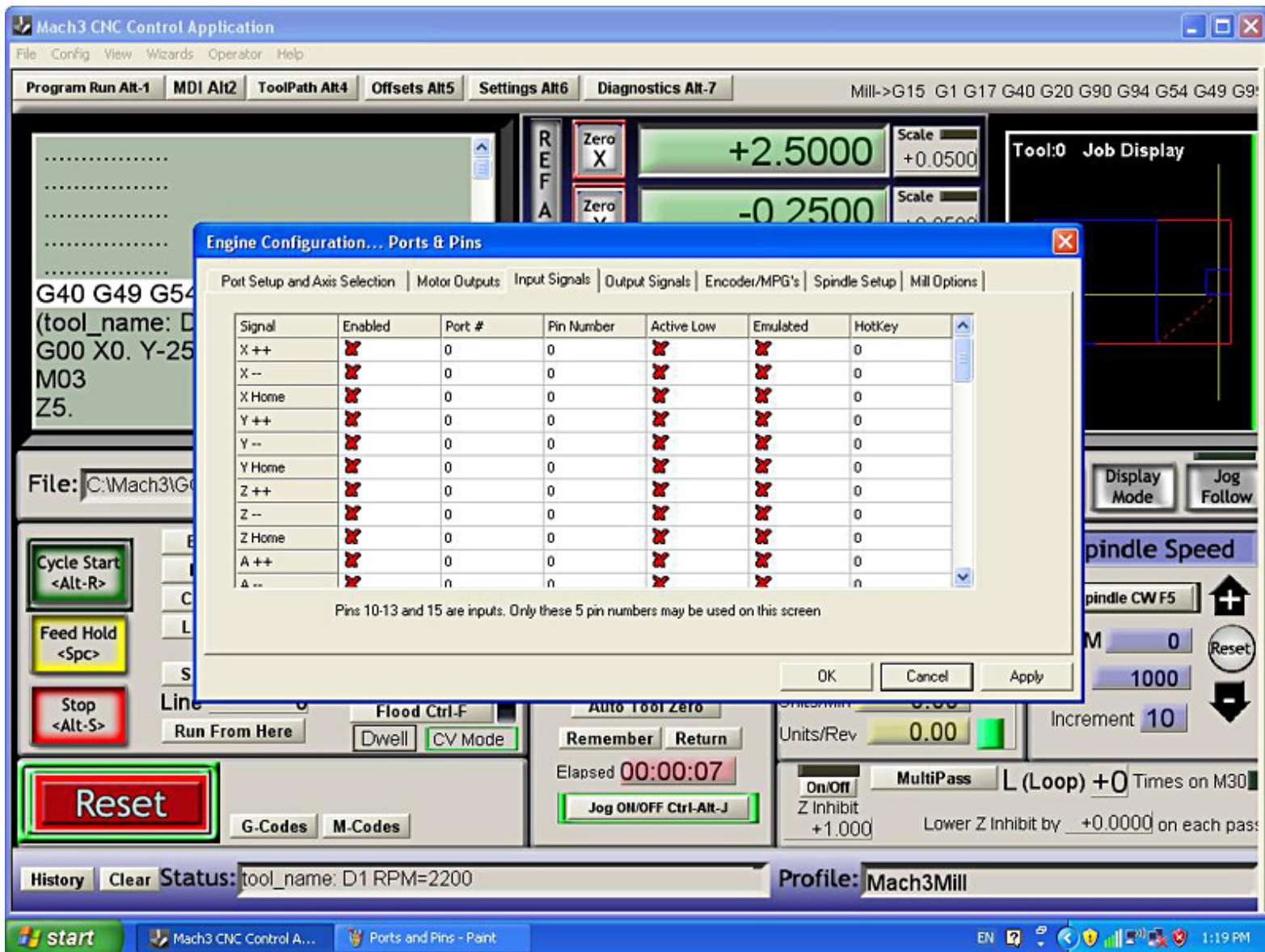
Note: some parameters are in default setting without affecting the output

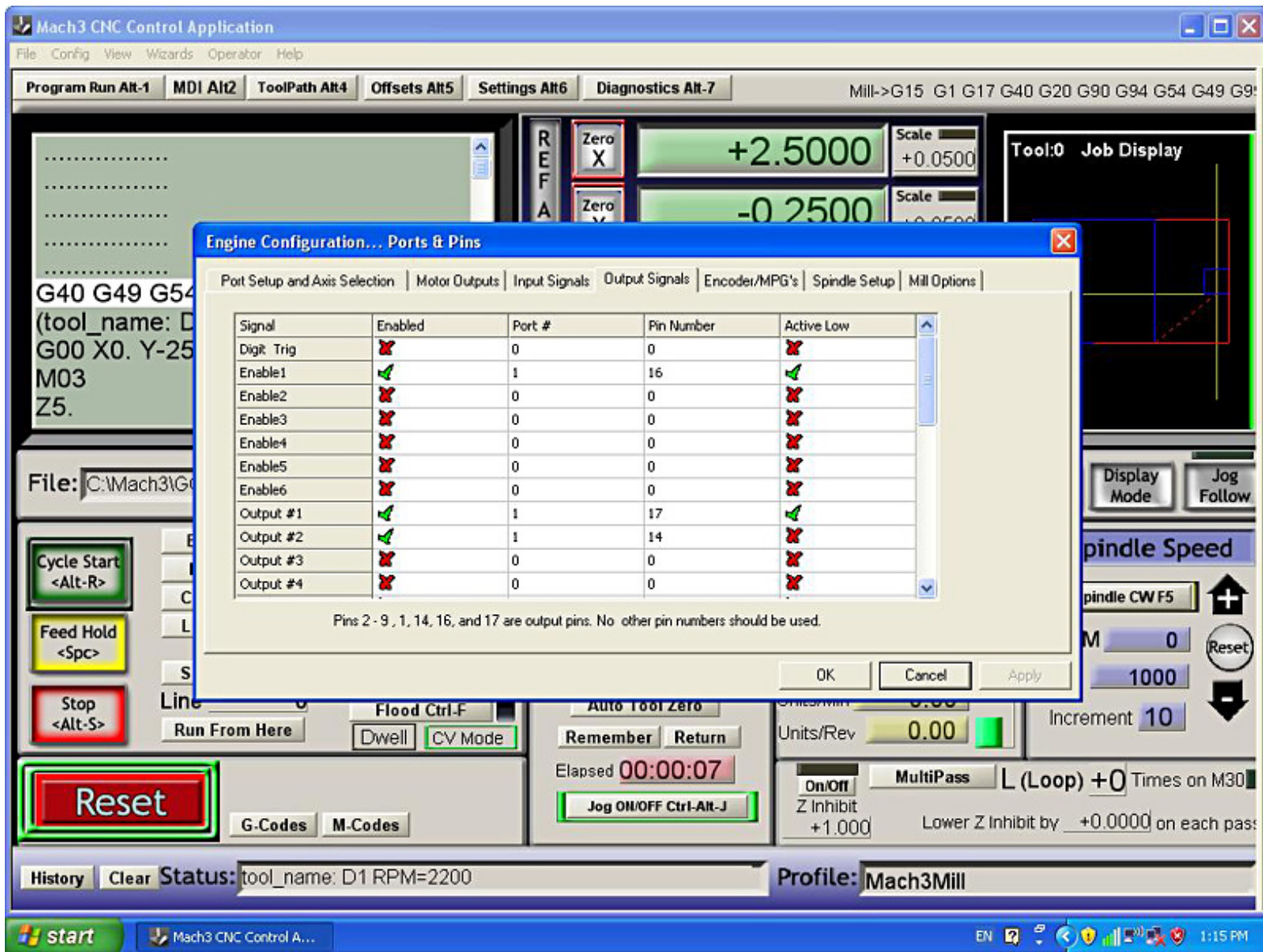


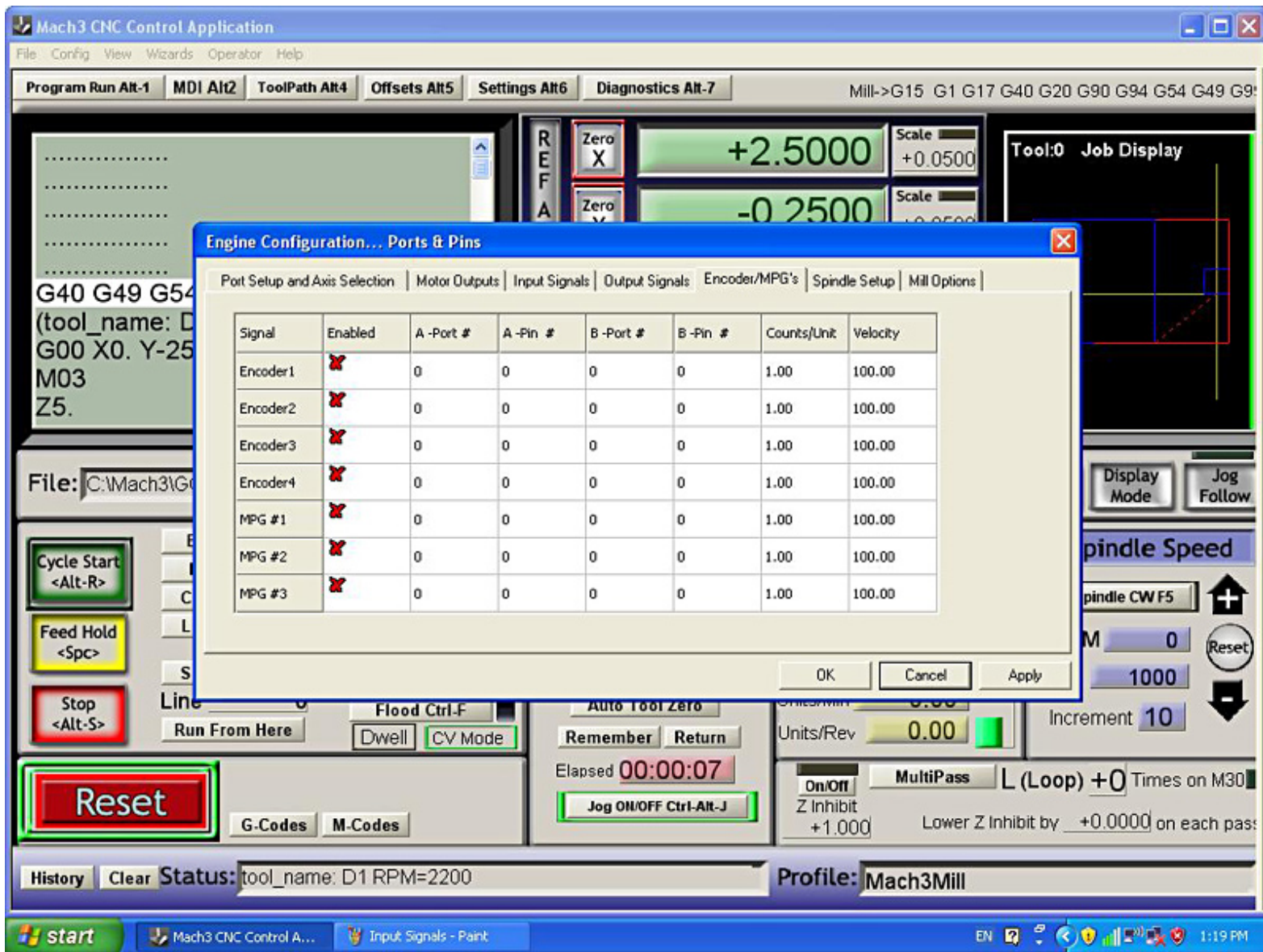




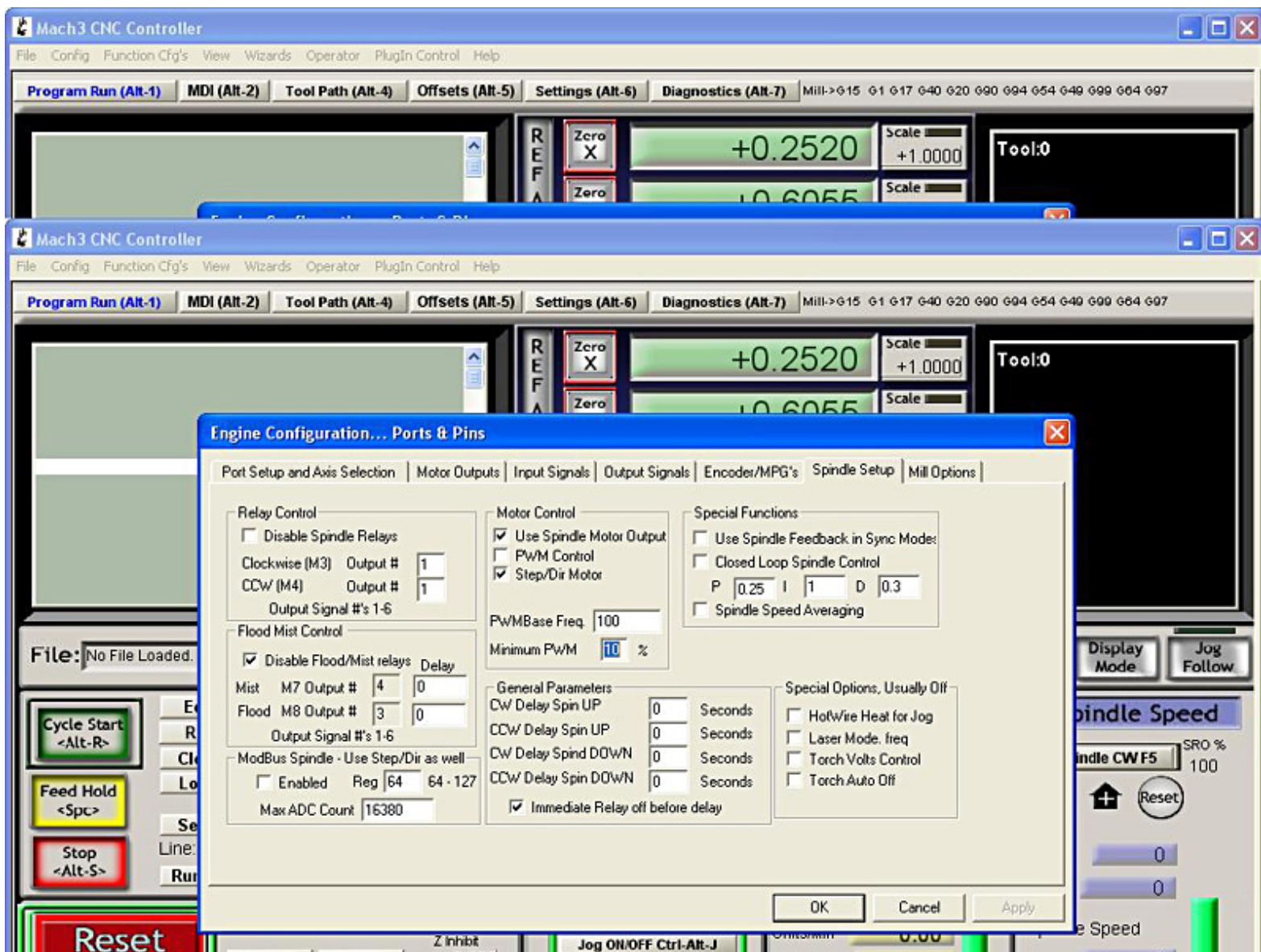
For 2-axis, disable the "Z axis"



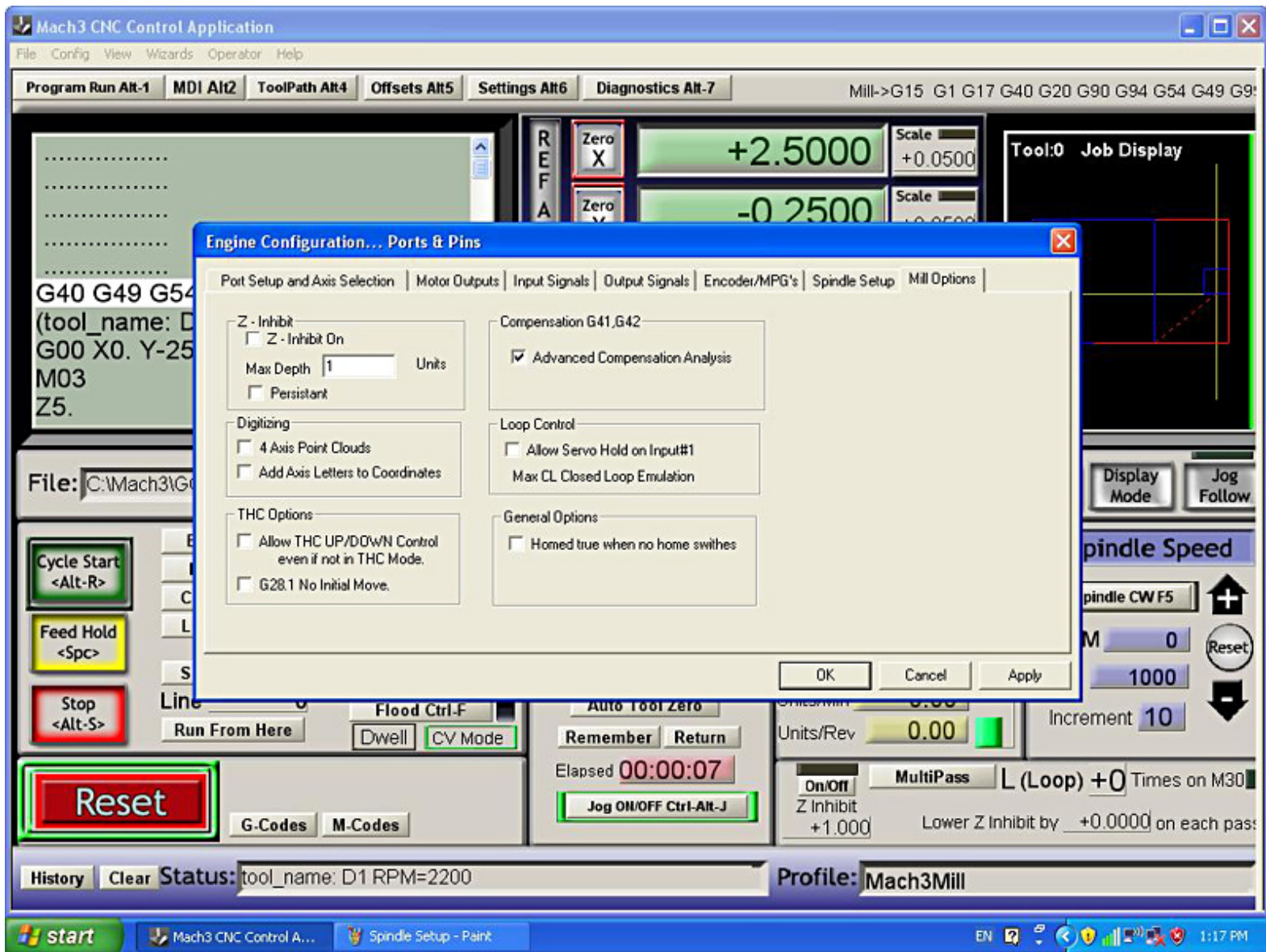




Note: this is a default setting.



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

www.LightObject.com