

Introduction

This is a brief description of a CNC interface board for parallel port CNC step/dir operation of VSD-A. Breakout board serves as easy to use interface between the PC and up to 4 drives. This board is suitable for VSD-A Rev1 and Rev2 drives.

Obtaining boards

This board is **available as bare PCB** from Granite Devices. You can also use provided Cadsoft Eagle or Gerber files to produce breakout board. Several PCB houses accept these files directly for fabrication. See attached `vsd-a-rev2_bom.txt` for bill of materials and needed components.

Note: IC1 must be 7408 or 74LS08 chip. Any other logic family will not work (74HCT, 74AC etc).

Note 2: Use at least VSD-A firmware version 1.14 for optimum operation

Features

- 1-4 axis VSD-A outputs
- Direct ribbon cable connections to VSD-A drives
- 4 limit switch inputs + E-stop input
- USB connector for board power
- Drive enable pin from PC
- Drive fault to PC signal

Pinout

Configure your CNC control software pinout accordingly

Parallel port pin	Function
1	<i>Not connected</i>
2	A axis direction
3	A axis step (rising edge)
4	Z axis direction
5	Z axis step (rising edge)
6	Y axis direction
7	Y axis step (rising edge)
8	X axis direction
9	X axis step (rising edge)
10	Drive fault & E-stop input to PC (active low)
11	X switch to PC
12	Y switch to PC
13	Z switch to PC
14	Drive enable from PC (drives active when high, disabled when low)
15	A switch to PC
16	<i>Not connected</i>
17	<i>Not connected</i>
18-25	Ground

VSD-A breakout board Rev2 for parallel port CNC

documentation Ver. 0.20



Schematics & layout

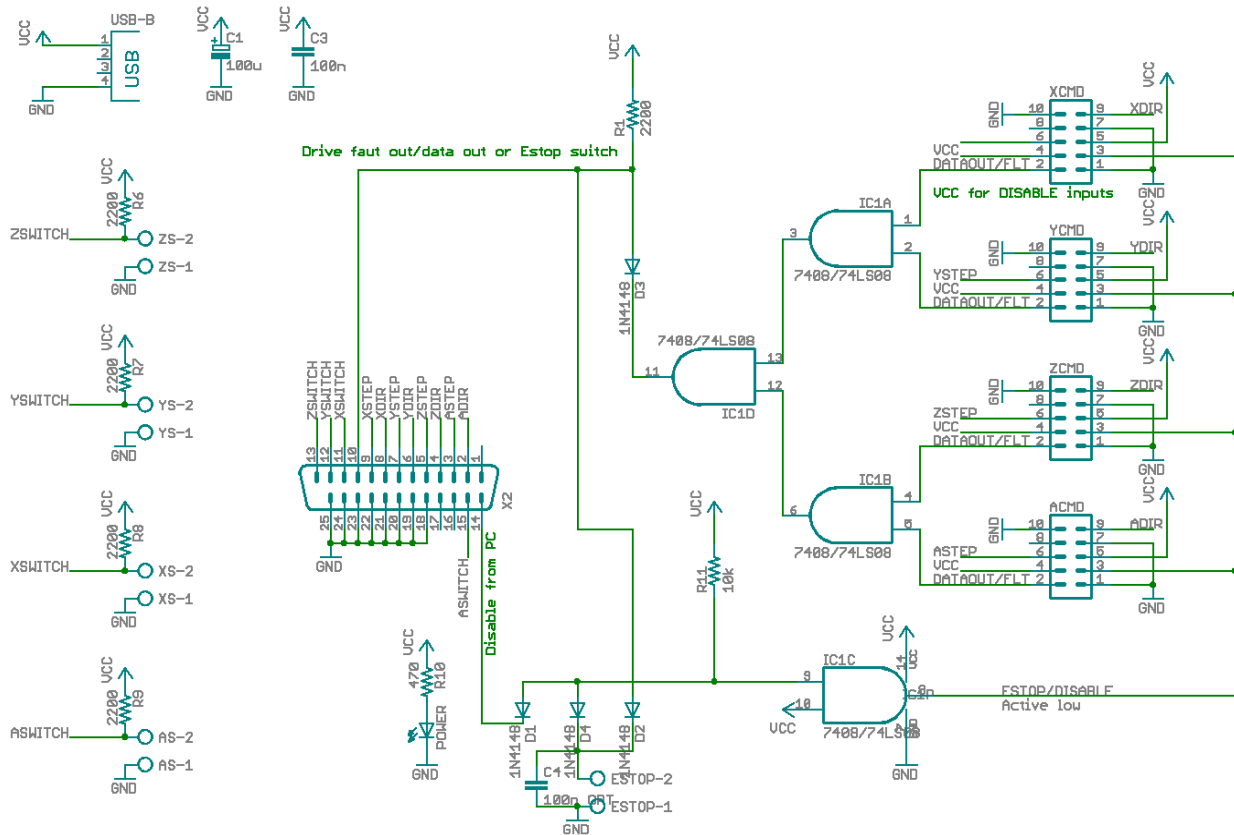


Figure 1: Breakout board schematics

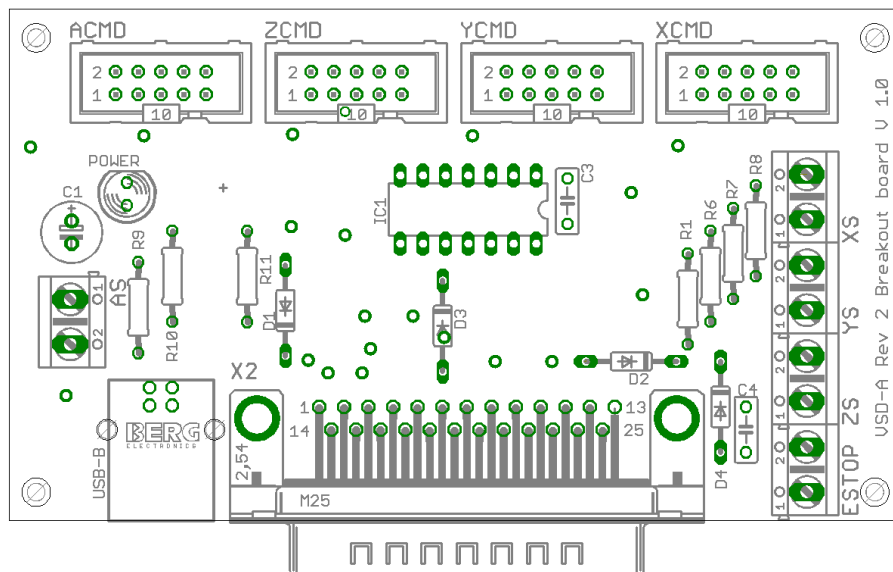


Figure 2: Board layout & component placement

Usage

Sample pin configuration for Mach 3 (www.artofcnc.ca). Note: with Mach it is recommended to use at least version 114 of VSD-A firmware.

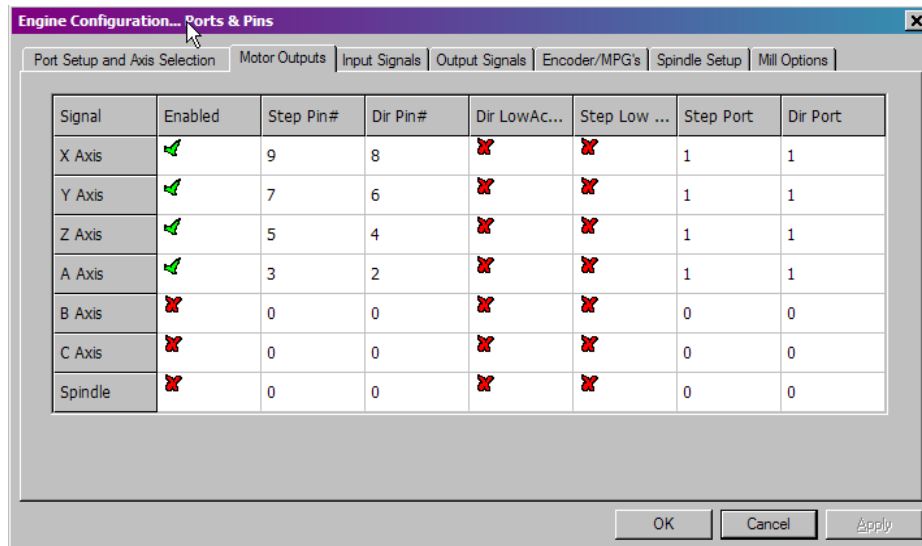


Figure 3: Step/dir outputs

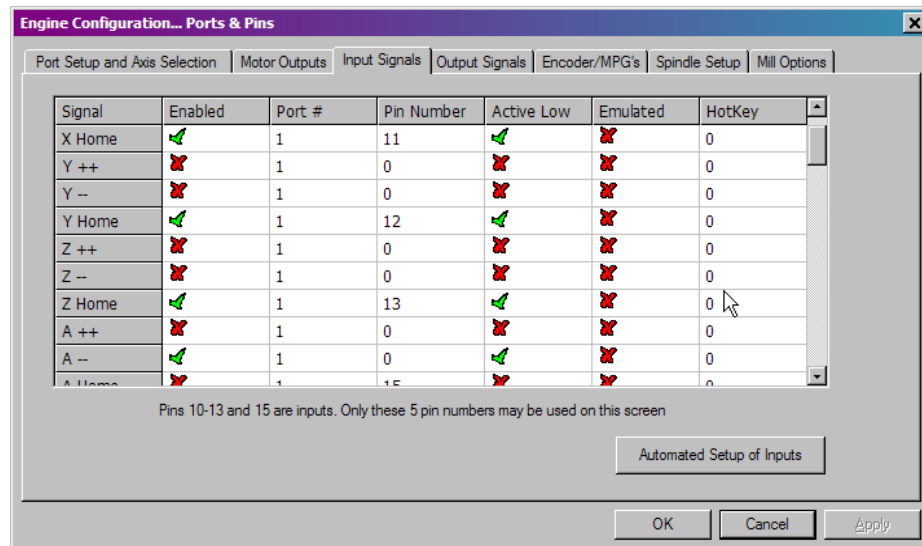


Figure 4: Home switch inputs. Note that home switch inputs can also be configured differently for different kind of setups (for example use as limit switches).

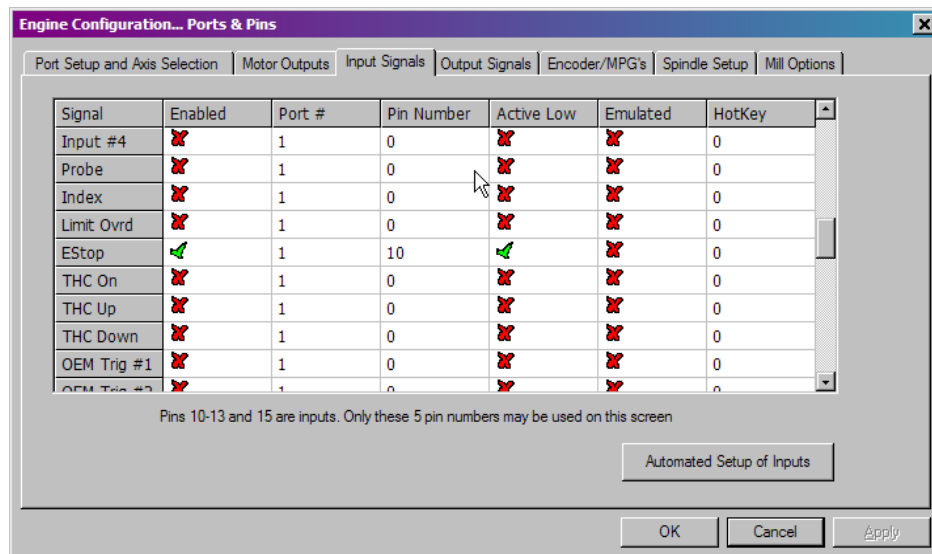


Figure 5: EStop input

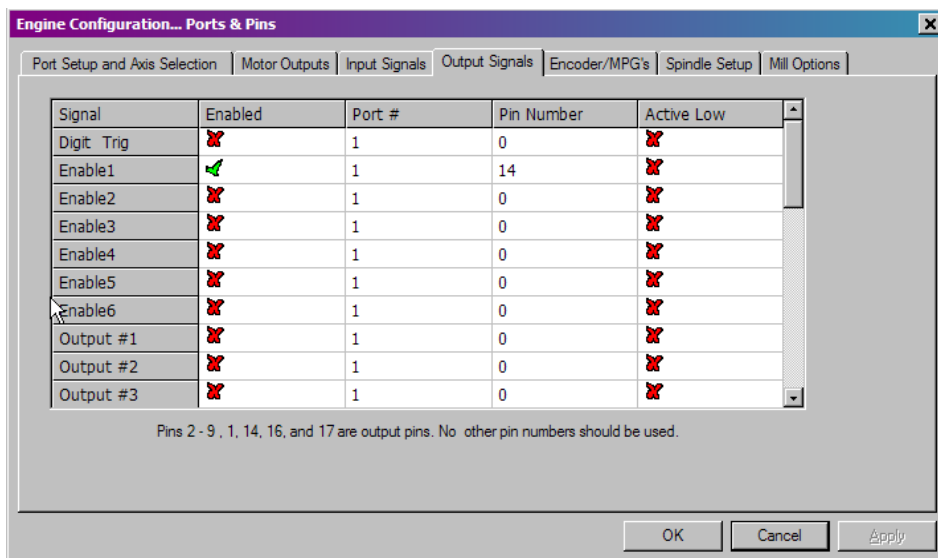


Figure 6: Drive enable output

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