

GRBLDuino Mega Lite V1 Datasheet – GRBL v1.1 Compatible



GRBLDuino Mega Lite is a GRBL v1.1 compatible 6-axis external driver Arduino Mega shield CNC Controller. The 6-Axis GRBL can be downloaded from: <https://github.com/EccentricWkshp/grbl-Mega-4axis>.

GRBLDuino Mega Lite is designed to provide easy access to the pins required for complete machine control through terminal blocks for easy connections to external stepper drivers, control switches, and two limit switches per axis.

Bill of Materials

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|------|---------------------------------|-----|-------------------------------------|
| • 1 | GRBLDuino Mega Lite V1 PCB | • 1 | Long 2 Pin Jumper Shunt |
| • 34 | 2 Position Screw Terminal Block | • 1 | Tact Switch |
| • 1 | 1x3 Pin Male Pin Header | • 1 | 10k Ohm Resistor (R1) |
| • 1 | 1x6 Pin Male Pin Header | • 2 | 680 Ohm Network Resistor (RN1, RN2) |
| • 5 | 1x8 Pin Male Pin Header | • 7 | 150nF Ceramic Capacitor (C7-13) |
| • 1 | 2x18 Pin Male Pin Header | | |

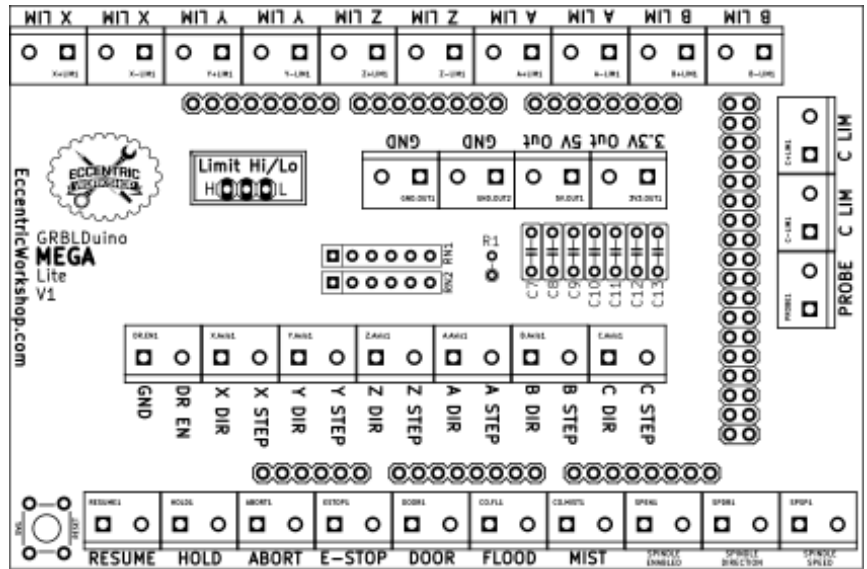
Stepper Driver Connections

GRBLDuino Mega Lite is designed to be used with any external stepper driver supporting step and direction signals as produced by GRBL. Step and Direction terminals are provided for each of the 6 axes.

Additional terminals are provided for driver enable (DR EN), ground (GND), as well as 5v and 3.3v outputs.

Machine Connections

GRBLDuino Mega Lite allows for connection of 11 machine functions: Resume, Hold, Abort, Emergency Stop, Door Safety, Flood Coolant, Mist Coolant, Spindle Enabled, Spindle Direction, Spindle Speed, and Probe. Screw terminal blocks are provided to allow for easy connections to the control buttons and machine functions. All inputs are activated by connecting the two terminals together so wire polarity into the terminal blocks does not matter. Should you need more advanced functions, the control pins are marked with a circle on the bottom of the board. Spindle Speed is GRBL PWM spindle speed control ready to connect to a spindle motor driver PWM input and the active pin is the right, board edge, terminal.

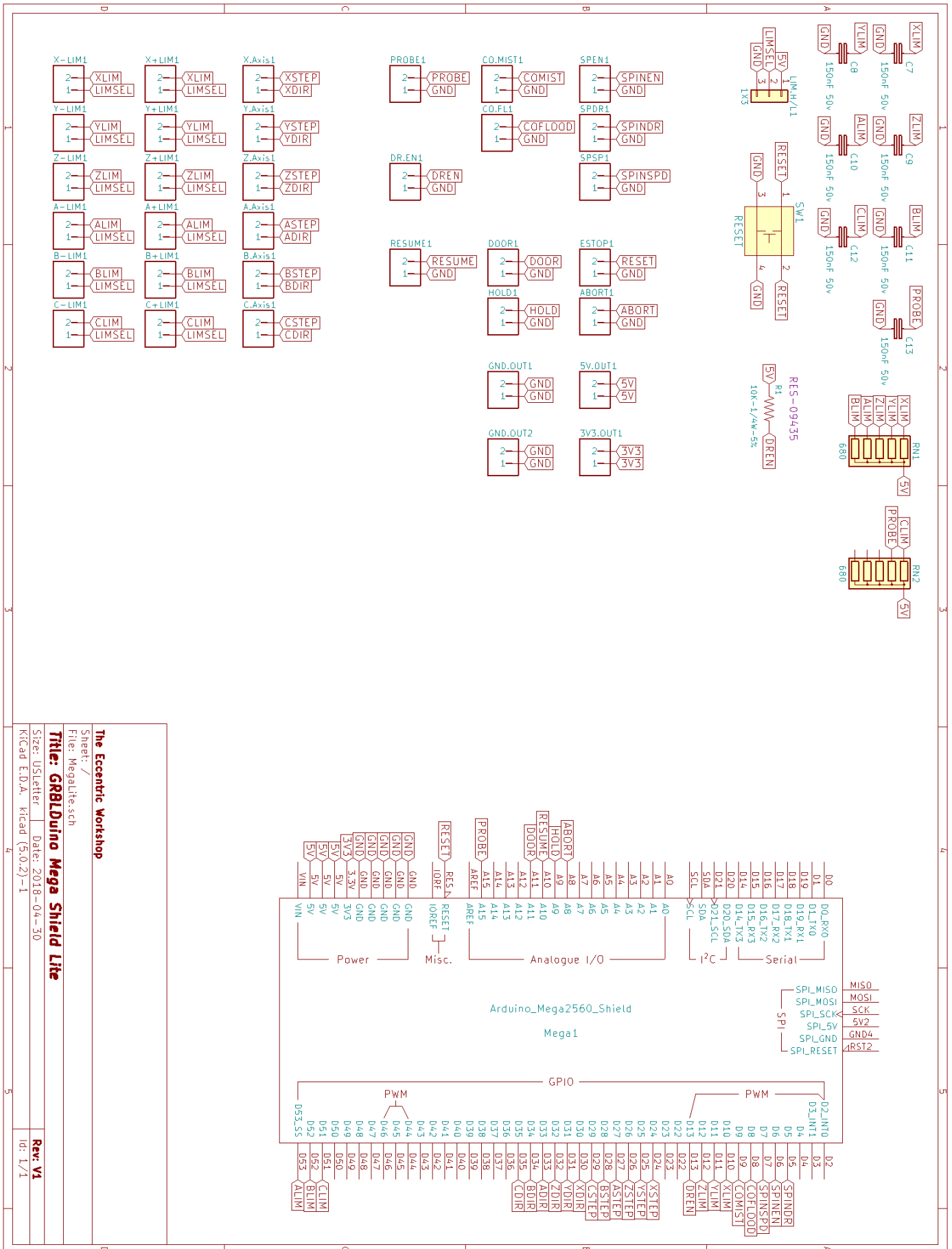


Limit Switch Settings

GRBLDuino Mega Lite allows for connection of 6 limit switches: two per axis – X, Y, Z, A, B, and C. Screw terminal blocks are provided to allow for easy connections to each limit switch. Because each switch is on an independent terminal block, either switch wire can go into either terminal without regard to polarity.



GRBL default is for limit switch activation through a normally-open switch connecting the limit switch pin to ground. This mode is picked by using the Limit Hi/Lo jumper to select the center and right points (Lo). If you prefer to have high activated limit switches, use the Limit Hi/Lo jumper to select the center and left pins (Hi).



The Eccentric Workshop
 Sheet: /
 File: MegaLite.sch
Title: GRBLDuino Mega Shield Lite
 Size: USLetter Date: 2018-04-30
 KicCad E.D.A. kiccad (3.0.2)-1
 Rev: V1
 Id: 1/1