

This is the Revision A version of the [Motor3 RoboBrick](#). The status of this project is [work in progress](#).

Motor3 Robobrick (Revision B)

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1. Introduction

The Motor3 RoboBrick allows for control of up to three small DC motors via pulse width modulation. The motor voltage input can range from 1 volt to 24 volts.

2. Programming

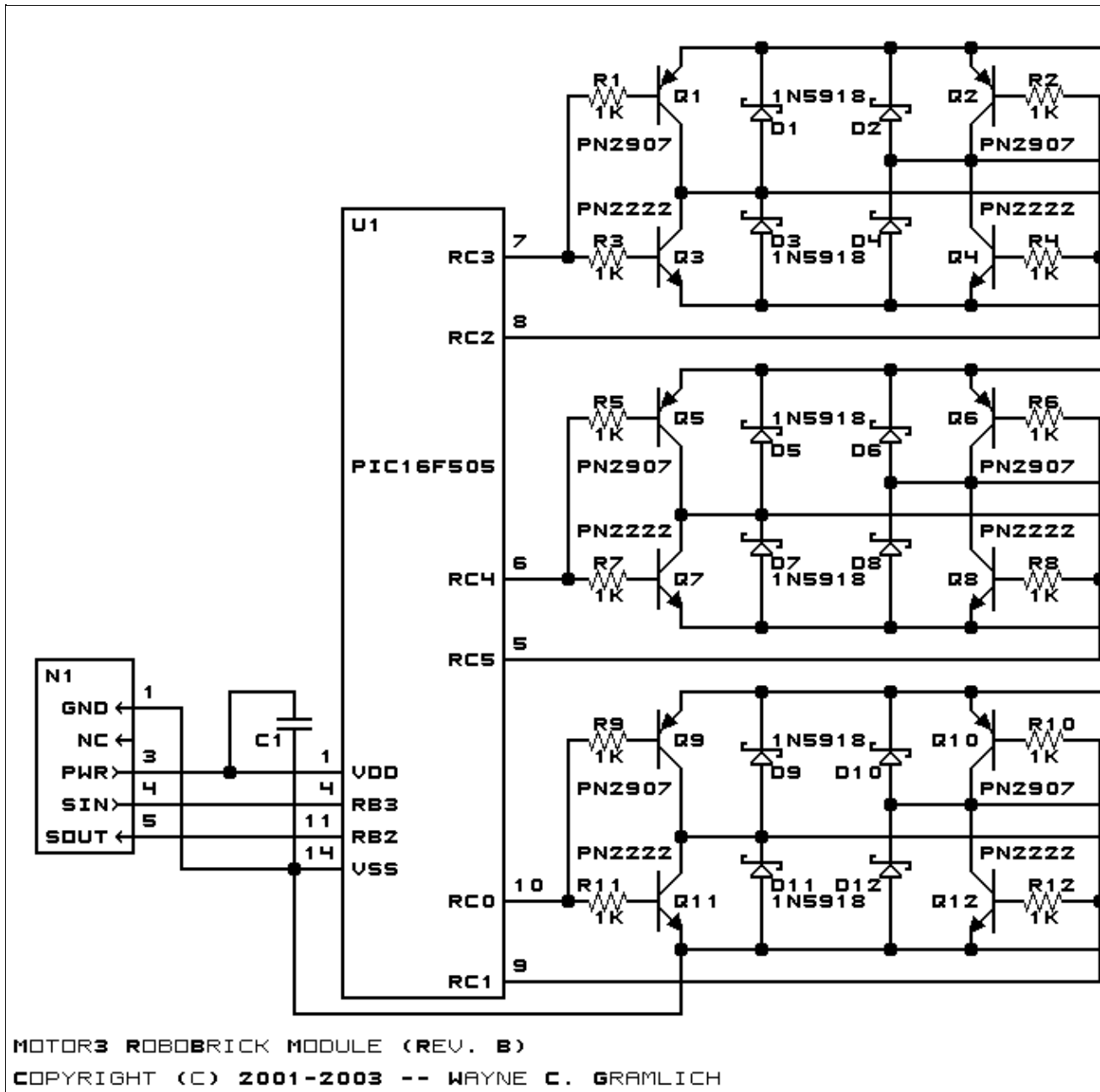
No programming specification yet.

3. Hardware

The hardware consists of a circuit schematic and a printed circuit board.

3.1 Circuit Schematic

The schematic for the Motor3 RoboBrick is shown below:



The parts list kept in a separate file -- [motor3.pil](#).

3.2 Printed Circuit Board

The printed circuit files are listed below:

[motor3_back.png](#)

The solder side layer.

[motor3_front.png](#)

The component side layer.

[motor3_artwork.png](#)

The artwork layer.

[motor3.gbl](#)

The RS-274X "Gerber" back (solder side) layer.

[motor3.gtl](#)

The RS-274X "Gerber" top (component side) layer.

[motor3.gal](#)

The RS-274X "Gerber" artwork layer.

[motor3.drl](#)

The "Excellon" NC drill file.

[motor3.tol](#)

The "Excellon" NC drill rack file.

4. Software

There is no software yet.

5. Issues

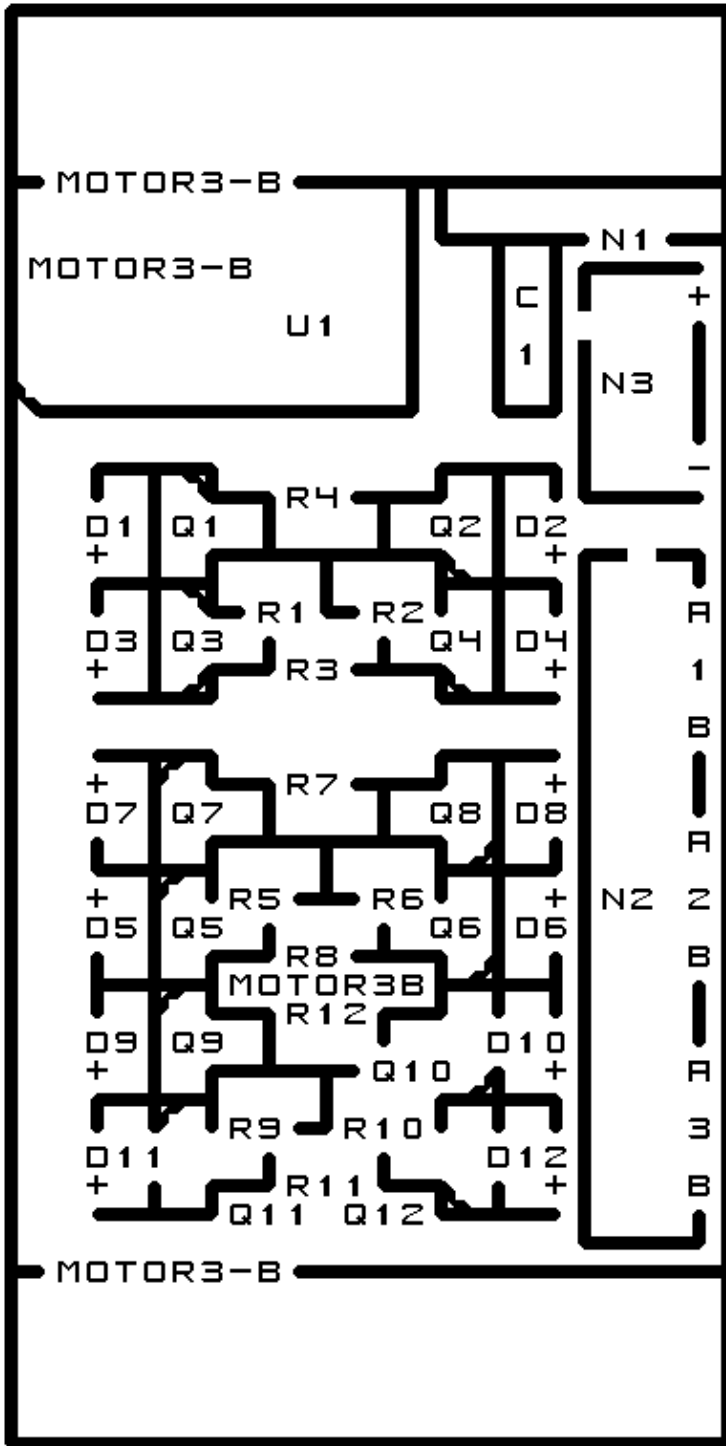
Any fabrication issues are listed here.

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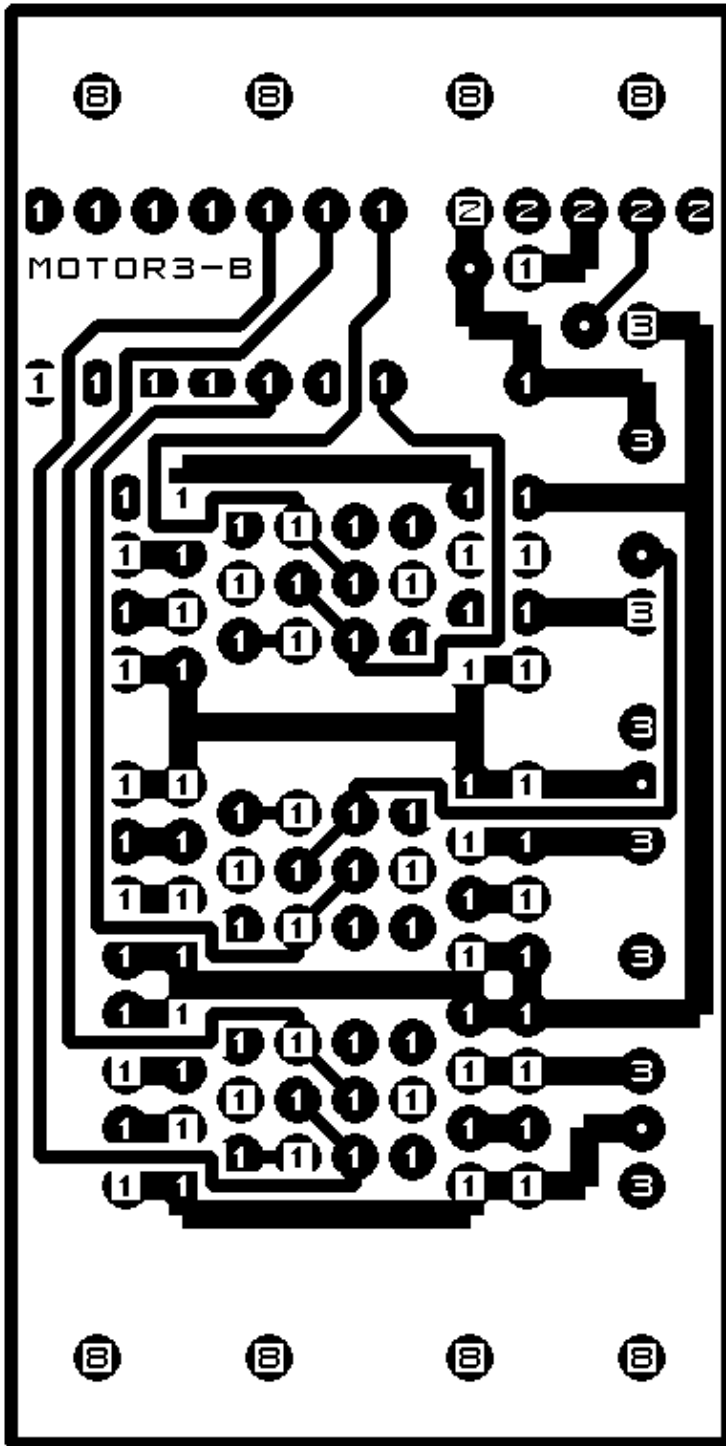
A. Appendix A: Parts List

```
# Parts list for Motor3 RoboBrick (Rev. B)
#
C1: Capacitor10pF - 10 pF Ceramic Capacitor [Jameco: 15333]
D1-12: 1N5819 - Schottky Barrier Rectifier [Jameco: 177965]
N1: Header1x5.RBSlave - 1x5 Male Header [5/40 Jameco: 160881]
N2: TerminalStrip6.Motor3 - 6 terminal terminal strip [2 Jameco: 189667]
N3: TerminalStrip2.Motor3 - 2 terminal terminal strip [Jameco: 189675]
Q1: PN2907.EBC - PNP Transistor [Jameco: 28644]
Q2: PN2907.CBE - PNP Transistor [Jameco: 28644]
Q3: PN2222.CBE - NPN Transistor [Jameco: 28628]
Q4: PN2222.EBC - NPN Transistor [Jameco: 28628]
Q5: PN2907.CBE - PNP Transistor [Jameco: 28644]
Q6: PN2907.EBC - PNP Transistor [Jameco: 28644]
Q7: PN2222.EBC - NPN Transistor [Jameco: 28628]
Q8: PN2222.CBE - NPN Transistor [Jameco: 28628]
Q9: PN2907.EBC - PNP Transistor [Jameco: 28644]
Q10: PN2907.CBE - PNP Transistor [Jameco: 28644]
Q11: PN2222.CBE - NPN Transistor [Jameco: 28628]
Q12: PN2222.EBC - NPN Transistor [Jameco: 28628]
R1-12: Resistor1K.Vertical - 1K Ohm 1/4 Watt Resistor [Jameco: 29663]
U1: PIC16C505.Motor3 - Microchip PIC16C505 [Digkey: PIC16C505-04/P-ND]
```

B. Appendix B: Artwork Layer



C. Appendix C: Back (Solder Side) Layer



D. Appendix D: Front (Component Side) Layer

