

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

MotorScan Robobrick (Revision A)

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1. Introduction

The MotorScan 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 MotorScan RoboBrick is shown below:

The artwork layer.

[motorscan.gbl](#)

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

[motorscan.gtl](#)

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

[motorscan.gal](#)

The RS-274X "Gerber" artwork layer.

[motorscan.drl](#)

The "Excellon" NC drill file.

[motorscan.tol](#)

The "Excellon" NC drill rack file.

4. Software

There is no software yet.

5. Issues

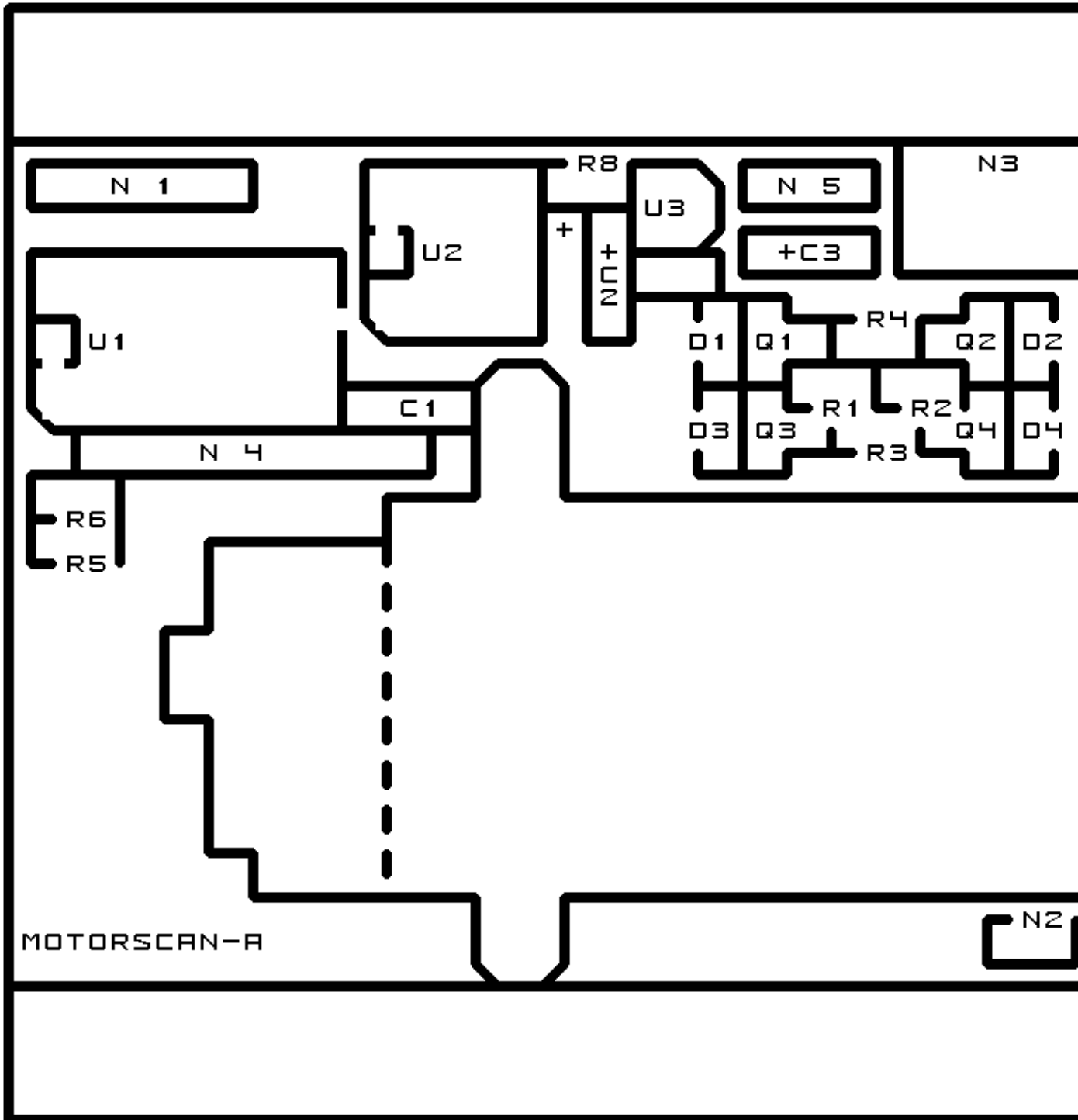
Any fabrication issues are listed here.

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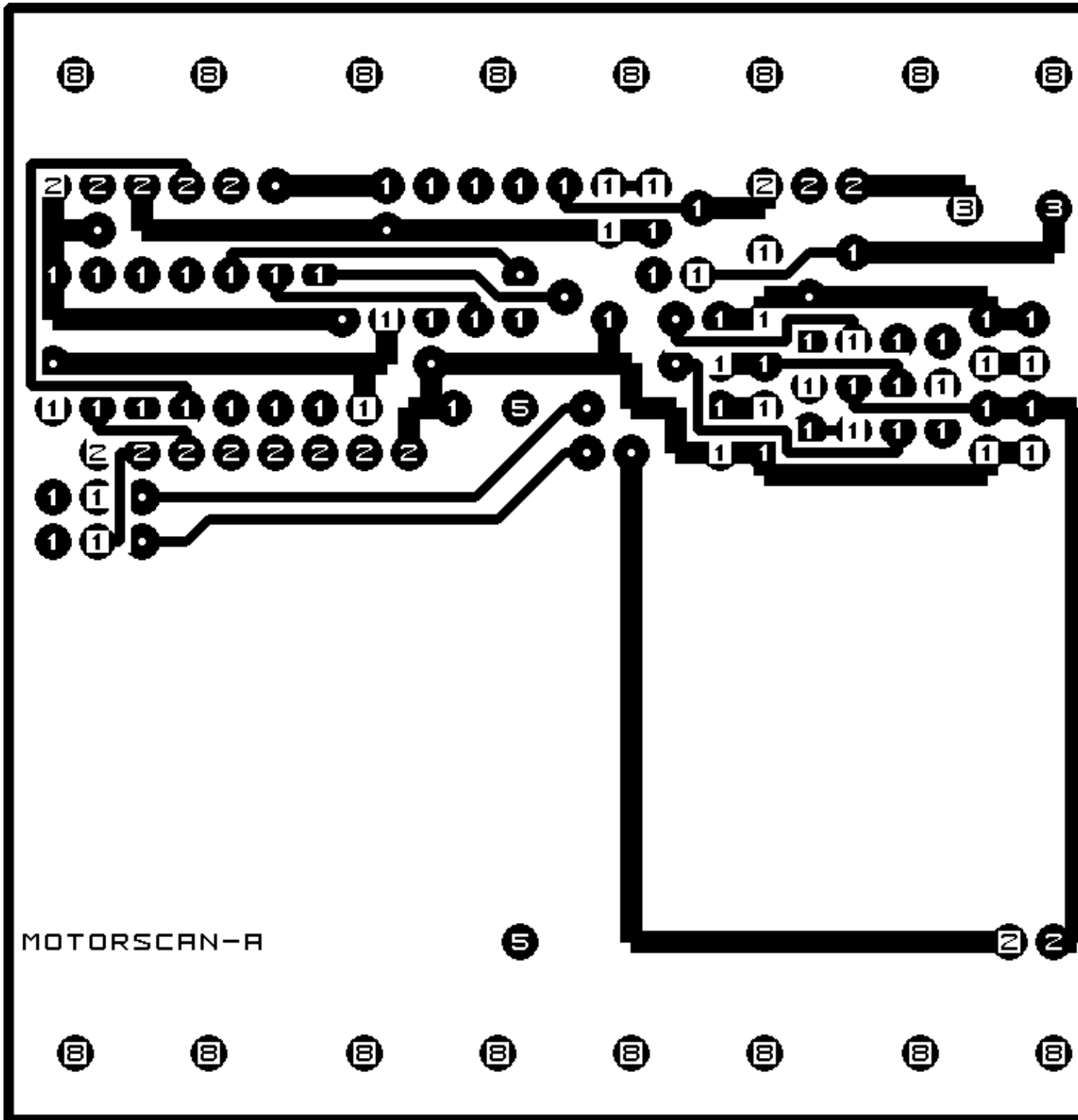
A. Appendix A: Parts List

```
# Parts list for Motor3 RoboBrick (Rev. A)
#
C1: Capacitor10pF - 10 pF Ceramic Capacitor [Jameco: 15333]
C2: Capacitor330nF - .33 uF Tantalum Capacitor [Jameco: 33523]
C3: Capacitor1uF - 1 uF Tantalum Capacitor [Jameco: 33662]
D1-4: 1N5819 - Schottky Barrier Rectifier [Jameco: 177965]
N1: Header1x5.RBSlave - 1x5 Male Header [5/40 Jameco: 160881]
N2: Header1x2.MotorScan - 1x2 Male Header [2/40 Jameco: 160881]
N3: TerminalStrip2.MotorScan - 2 terminal terminal strip [Jameco: 189675]
N4: Header1x8.MotorScan - 1x8 Male Header [8/40 Jameco: 160881]
N5: Header1x3.MotorScan - 1x3 Male Header [3/40 Jameco: 160881]
Q1: PN2907.CBE - PNP Transistor [Jameco: 28644]
Q2: PN2907.EBC - PNP Transistor [Jameco: 28644]
Q3: PN2222.CBE - NPP Transistor [Jameco: 28628]
Q4: PN2222.EBC - NPP Transistor [Jameco: 28628]
R1-4: Resistor1K.Vertical - 1K Ohm 1/4 Watt Resistor [Jameco: 29663]
R5-6: Resistor220.Vertical - 220 Ohm 1/4 Watt Resistor [Jameco: 30470]
R7-8: Resistor1K.Vertical - xx Ohm 1/4 Watt Resistor [Jameco: 29663]
U1: PIC16C505.MotorScan - Microchip PIC16C505 [Digikey: PIC16C505-04/P-ND]
U2: PIC12C672.MotorScan - Microchip PIC12C672 [Digikey: PIC12C672-04/P-ND]
U3: LM317LZ - Adjustable Voltage Regulator [Jameco: 23552]
```

B. Appendix B: Artwork Layer



C. Appendix C: Back (Solder Side) Layer



D. Appendix D: Front (Component Side) Layer

