This is the Revision A version of the Tether RoboBrick. The status of this project is that it has been replaced by the revision B version.

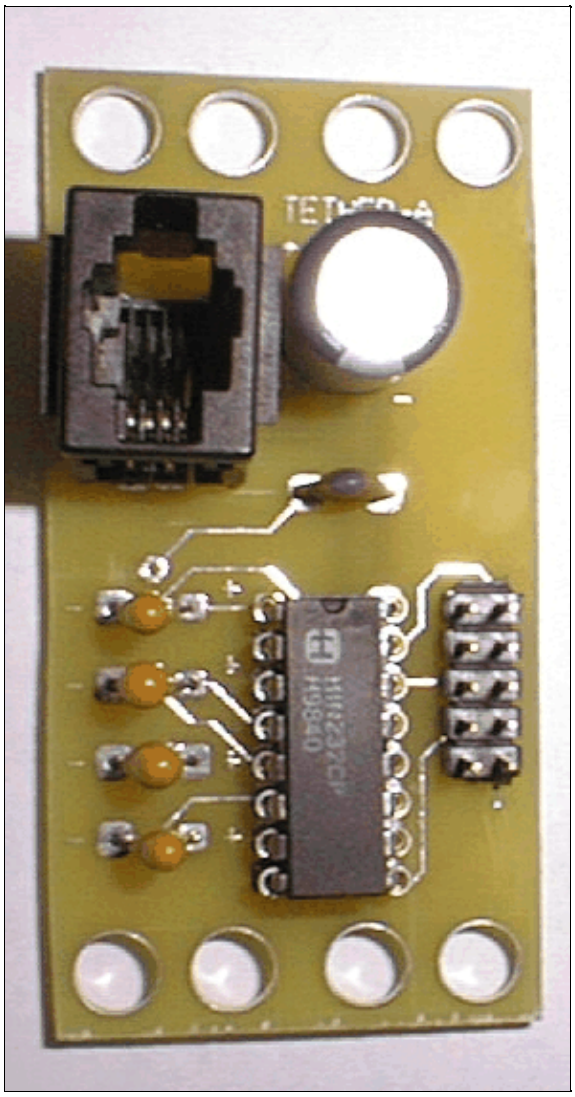
Tether Robobrick (Revision A)

Table of Contents

This document is also available as a PDF document.

1. Introduction

The Tether RoboBrick is a RoboBrick that connects a master RoboBrick to a computer via a stanadard 4−wire telephone cord extension. A picture is shown below:

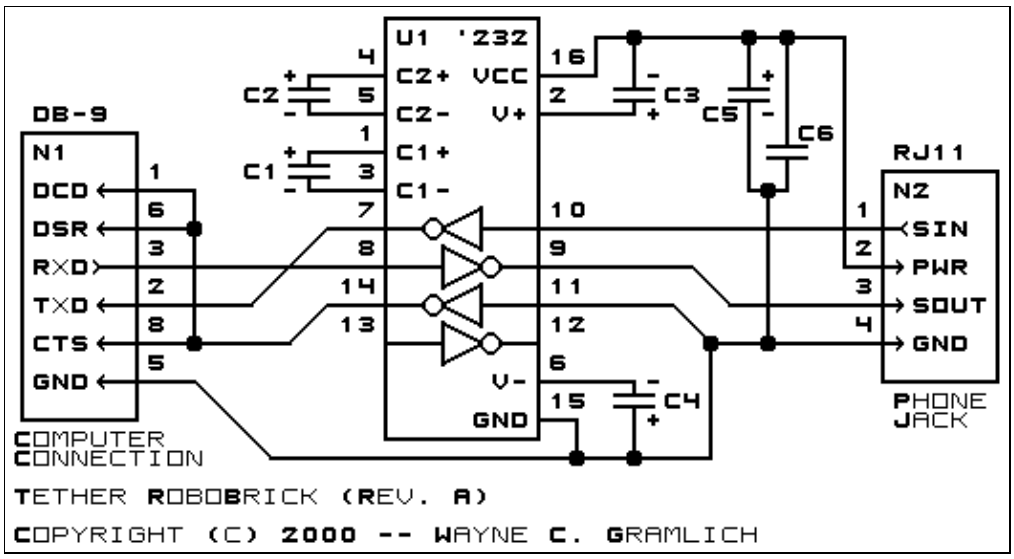


2. Hardware

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

2.1 Circuit Schematic

The schematic for the Tether RoboBrick is shown below:



The parts list kept in a separate file −− tether.ptl.

2.2 Printed Circuit Board

The printed circuit board files are listed below:

tether_back.png
: The solder side layer is shown below:

tether_front.png
: The component side layer is shown below:

tether_artwork.png
: The optional artwork layer is shown below:

tether.gbl
: The RS−274X "Gerber" back (solder side) layer.

tether.gtl
: The RS−274X "Gerber" top (component side) layer.

tether.gal
: The RS−274X "Gerber" artwork layer.

tether.drl
: The "Excellon" NC drill file.

tether.tol
: The "Excellon" NC drill rack file.

3. Issues

The revision A Tether RoboBrick has the following issues:

- The Lego peg holes did not line up properly.
- The pegs for the RJ11 sockets did not line up properly.
- Move the electrolytic capacitor to the right some so it is not so close to the RJ11 socket.
- Try not to run a trace between the pins of the 2x5 header on the solder side of the board.
- Figure out whether 1 µF or .1 µF capacitors are needed for the MAX232.
- Move the pin 1 label so that a big 2x5 header will not cover it.

A. Appendix A: Parts List

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# Parts list for Tether (Rev. A)
#
C1-4: Capacitor100nF - 100 nF (.1 uF) Tantalum Capacitor [Jameco: 25524]
C5: Capacitor2200uF - 2200 uF 6.3V Electrolytic Capacitor [Jameco: 133145]
C6: Capacitor10pF - 10 pF Ceramic Capacitor [Jameco: 15333]
N1: Header2x5.DB9 - 2x5 Header [10/80 Jameco: 117196]
N2: RJ11Female4_4.RBSlave - Female RJ11 (4-4) Phone Jack [Digikey: A9071-ND]
U1: MAX232CPE - RS-232 Level converter [Jameco: 24811]
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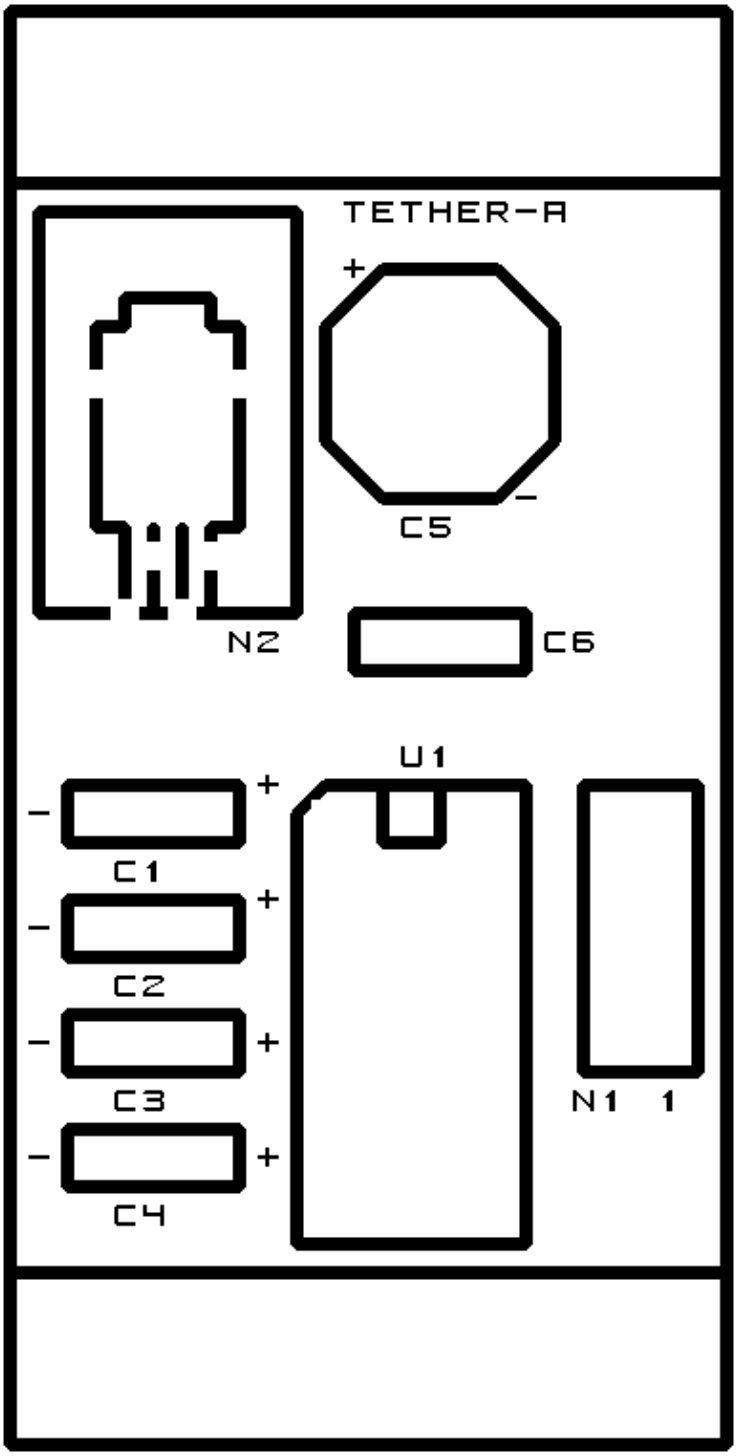
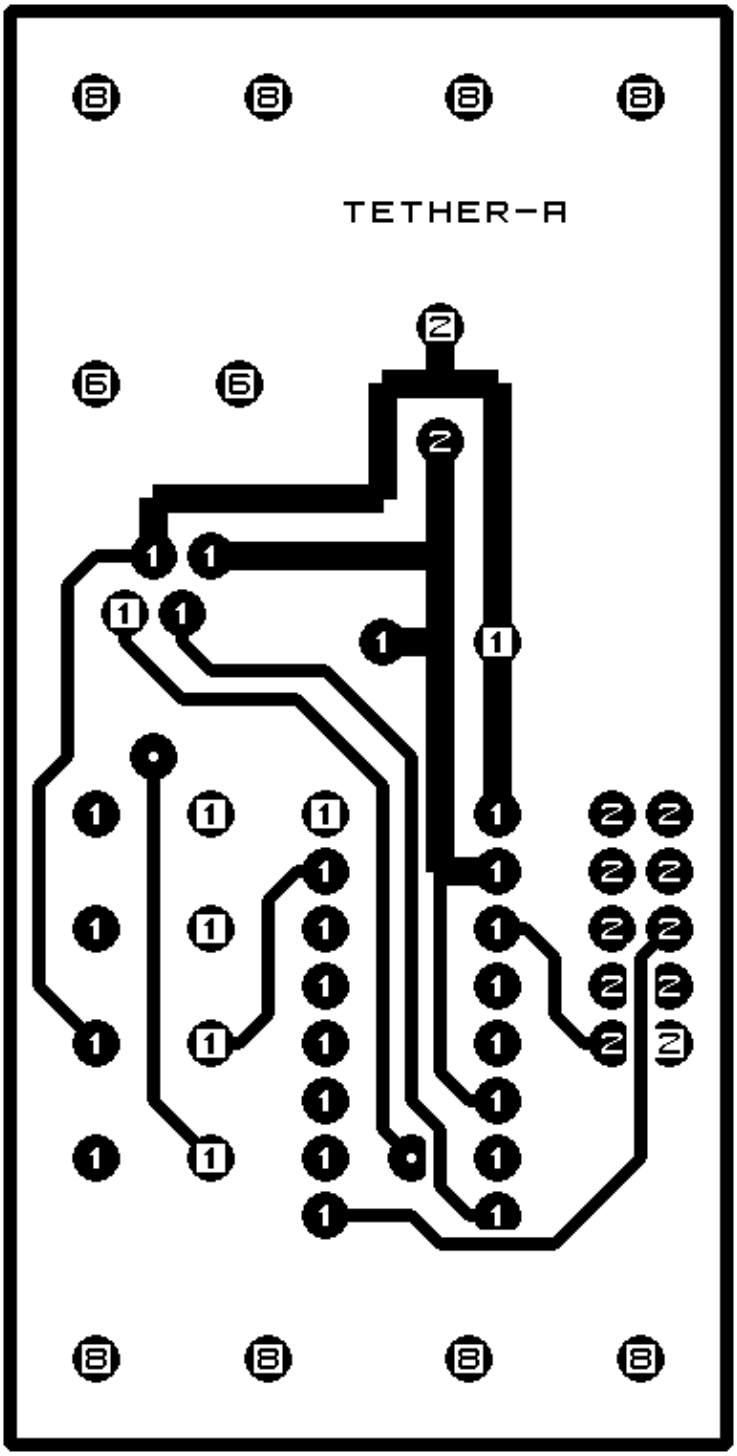
B. Appendix B: Artwork Layer



C. Appendix C: Back (Solder Side) Layer



D. Appendix D: Front (Component Side) Layer