

This is the Revision A version of the Reckon2 Module. The status of this project is work in progress.

Reckon2 Module (Revision A)

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1. Introduction

The Reckon2 module is used to maneuver a robot. It can control two motors in "differential steering" mode. Each motor needs to have a shaft encoder with a quadrature output. If there is enough resolution on the shaft encoder and the wheels are not too "squishy", it is possible to keep pretty accurate track of a robot's location and bearing using deduced reckoning. (Note: deduced reckoning is abbreviated as ded. reckoning and is now frequently referred to by the term "dead reckoning".)

2. Programming

There is no programming yet.

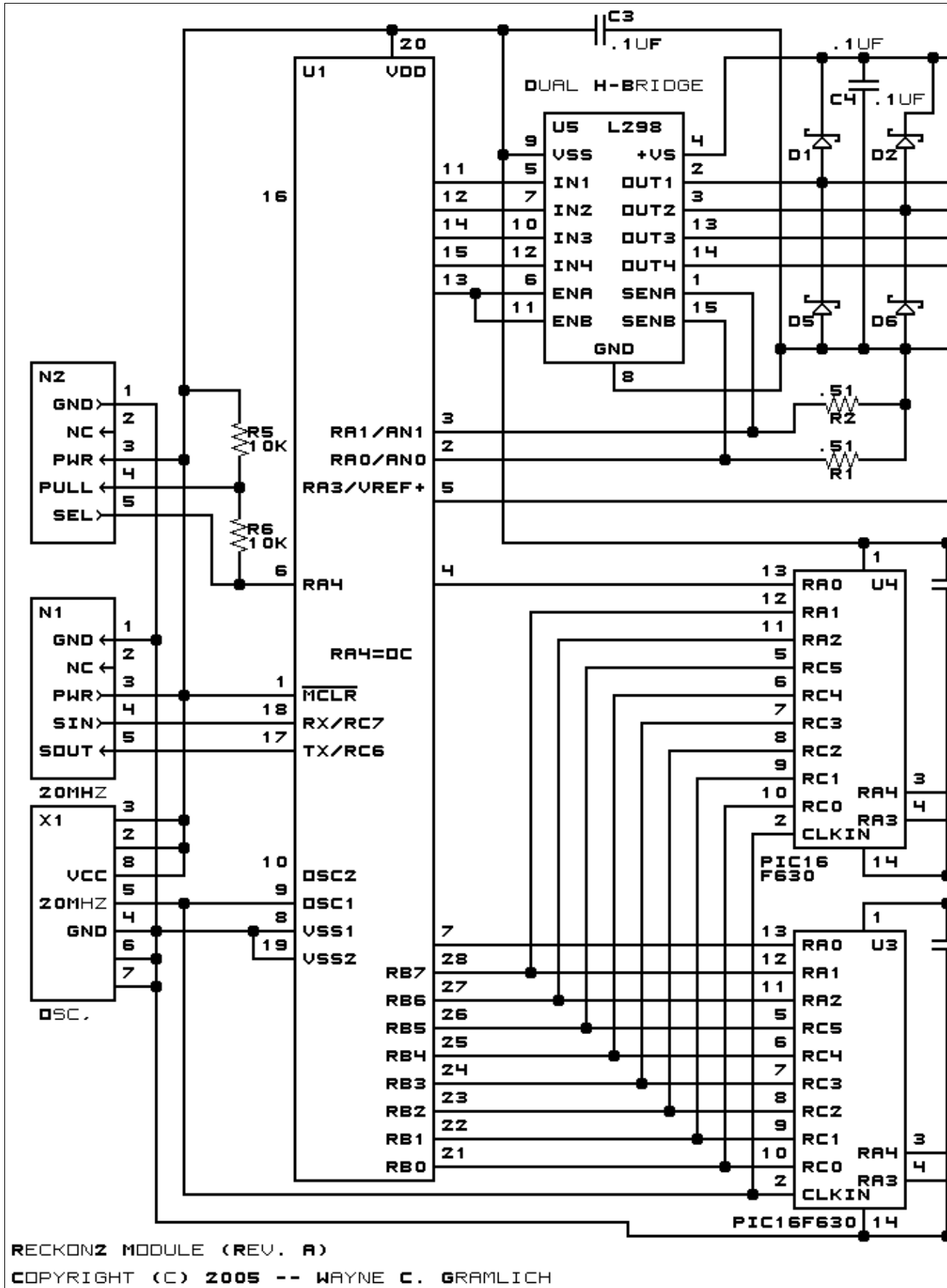
3. Hardware

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

3.1 Circuit Schematic

The schematic for the Reckon2 Module is shown below:

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The parts list kept in a separate file -- reckon2.ptl.

3.2 Printed Circuit Board

The printed circuit board files are listed below:

reckon2_back.png

The solder side layer.

reckon2_front.png

The component side layer.

reckon2_artwork.png

The artwork layer.

reckon2.gbl

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

reckon2.gtl

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

reckon2.gal

The RS-274X "Gerber" artwork layer.

reckon2.drl

The "Excellon" NC drill file.

reckon2.tol

The "Excellon" tool rack file.

4. Software

There is no software yet.

5. Issues

The following fabrication issues need to be addressed:

- Switch over to a resonator.
- There is too much interference between the heat sink and diodes.
- Capacitor C7 does not fit.
- Capacitor C4 would be nicer if .2" lead spacing were used.

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