This is the Revision B verion of the Reckon2 Module. The status of this project is work in progress.

Reckon2 Module (Revision B)

Table of Contents

This document is also available in PDF format.

1. Introduction

The Reckon2 module is used to manuver a robot. It can contol 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 abbreiated as ded. reckoning and is now frequently refered to by the term "dead reckoning".)

2. Programming
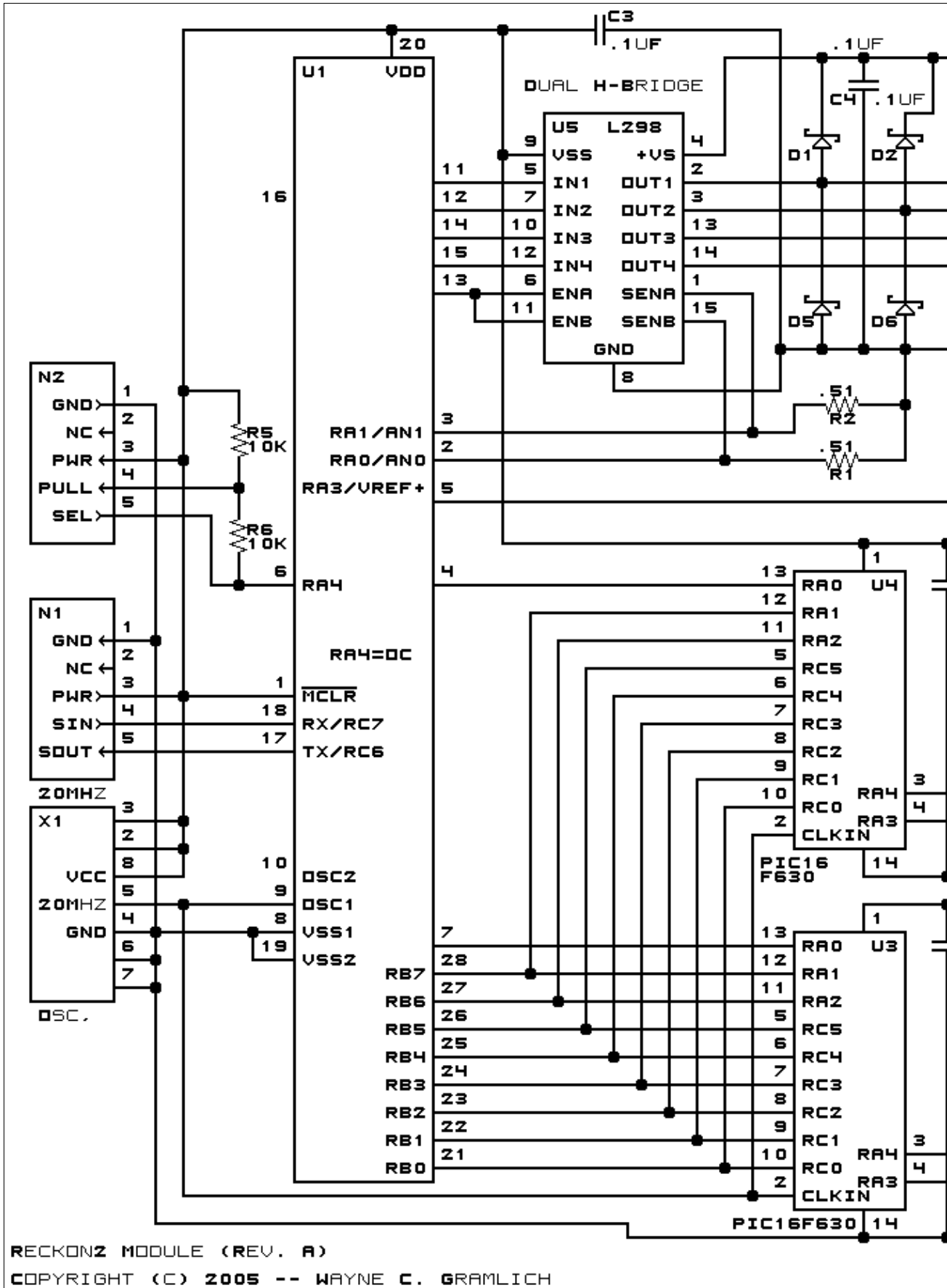
There is no programming yet.

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:

RECKON2 MODULE (REV. A)
COPYRIGHT (C) 2005 -- WAYNE C. GRAMLICH

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 interferance between the heat sink and diodes.
- Capacitor C7 does not fit.
- Capacitor C4 would be nicer if .2" lead spacing were used.