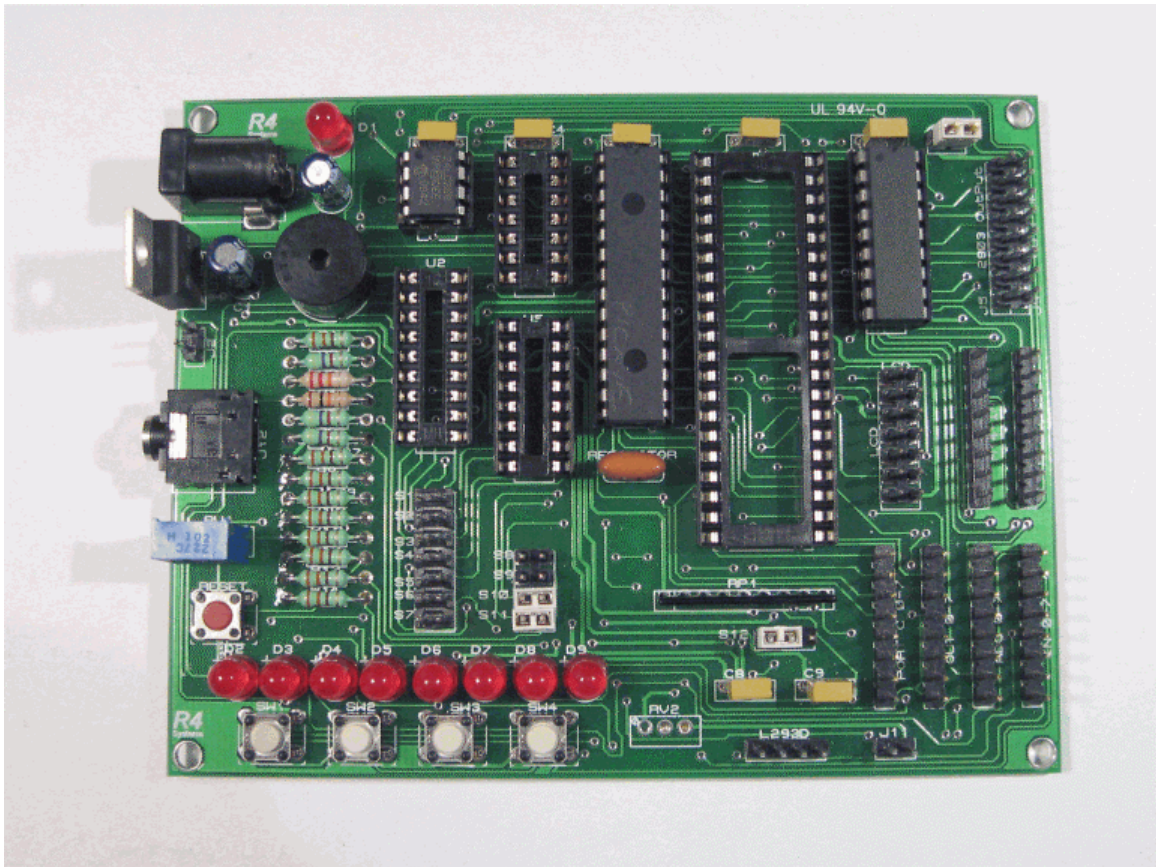


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4 In One Board Operations Manual

2007.09.12

Version 2.0



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Table of Contents

<u>4 In One Board Operations Manual</u>	1
<u>Table of Contents</u>	2
<u>Introduction</u>	3
<u>Circuit Schematic</u>	4
<u>The following is the Circuit Schematic:</u>	4
<u>Board Overview</u>	5
<u>Option Straps Overview</u>	6
<u>Header Layout</u>	10
<u>LCD Connection</u>	11
<u>Connection to PC</u>	11
<u>Sample Test Programs</u>	12

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Introduction

R4 Systems Inc. is pleased to provide you with our 4 Chip PICAXE board. This board can be populated with a 08M, 14M, 18X, 28X or the 40X, PICAXE microprocessor and some support components. Only 1 (one) processor can be installed at a time.

The Board has been designed and built to the highest standards, however R4 Systems Inc. offers no warranty or accepts any responsibility for problems arising from a user defined project.

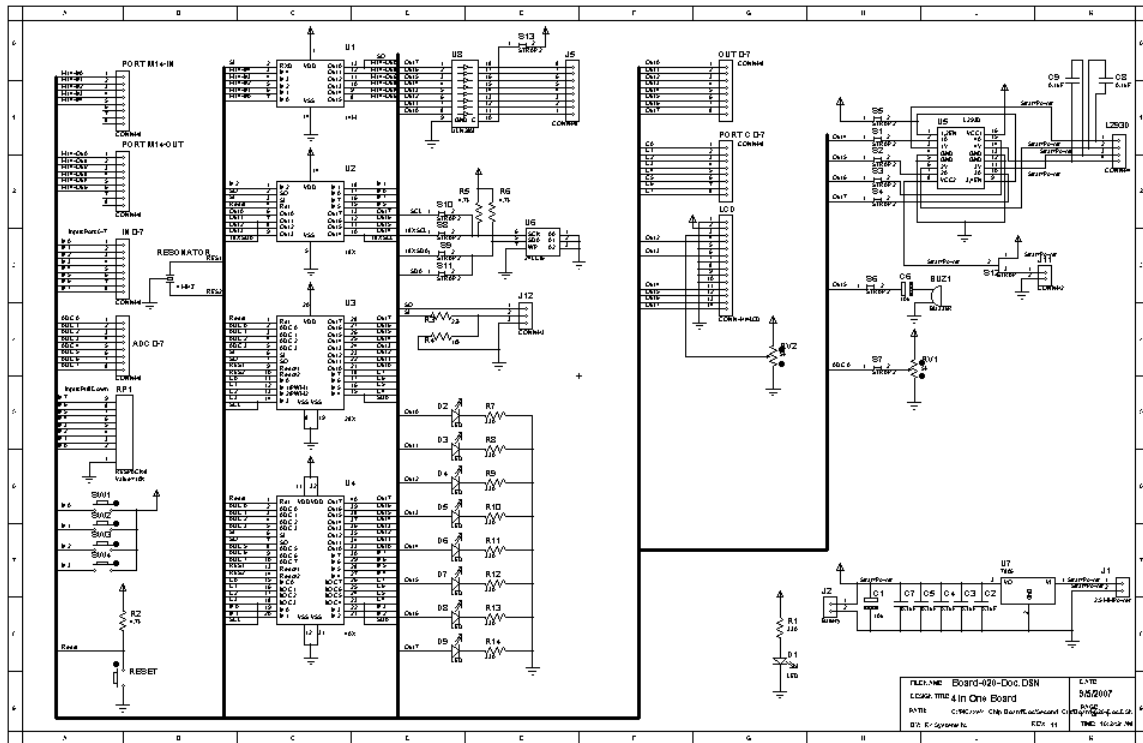
This board is not intended to be used in any Life Support Device.

PICAXE® is a registered trademark licensed by Microchip Technology Inc.

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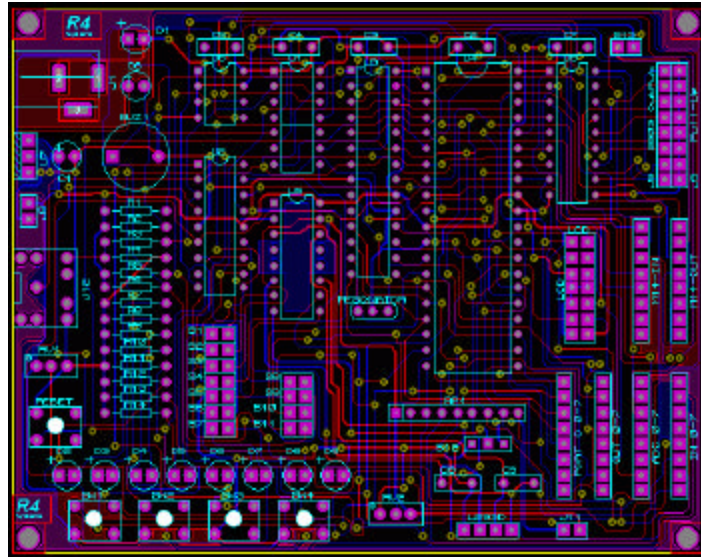
Circuit Schematic

The following is the Circuit Schematic:

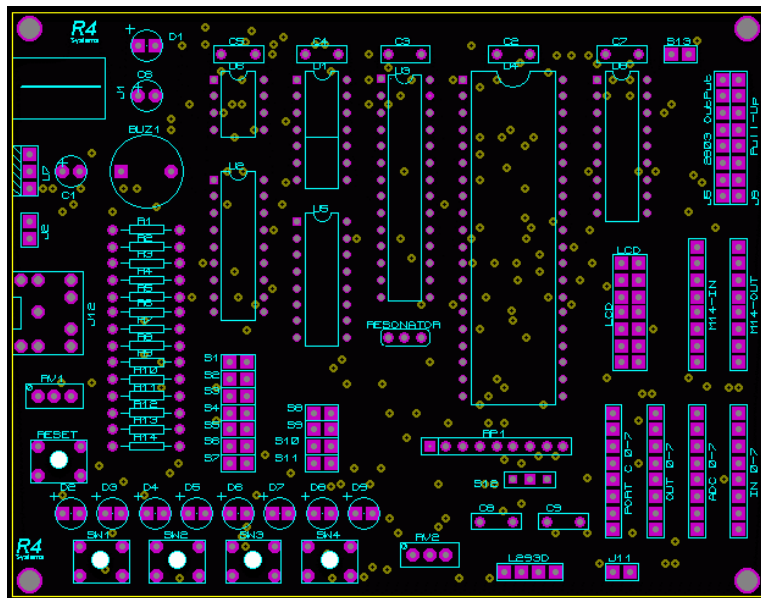


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Board Overview



Board overview with Top & Bottom Copper and Silkscreen

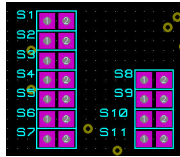


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Option Straps Overview

There are eleven option straps on the board.

These are S1, to S11.



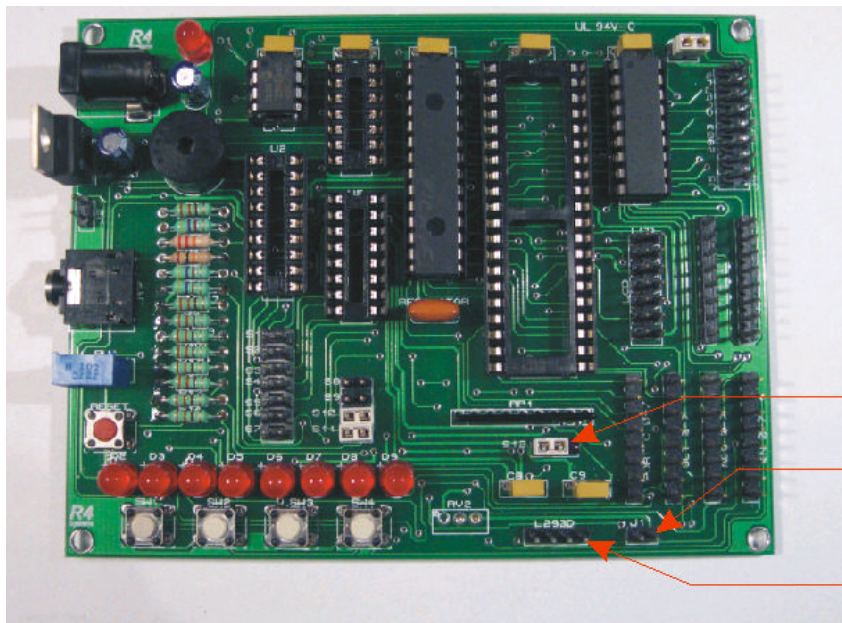
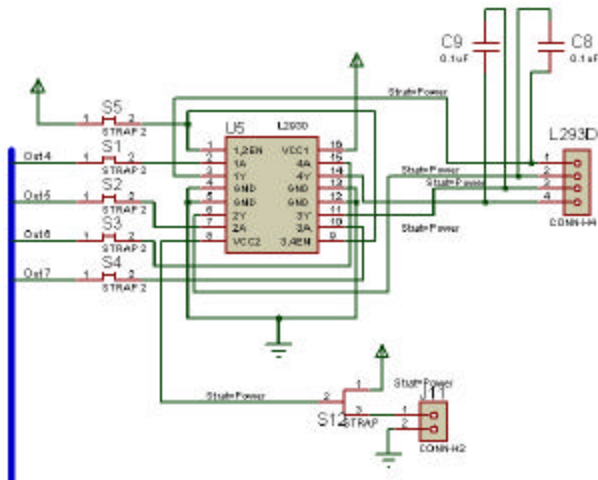
These option straps enable several functions on the board. They are:

Motor Control using the L293D, Buzzer, ADC input test voltage, and the Serial EEPROM.

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Straps S1 to S5 enable the L293D on the Out put port of the 18X, 28X or the 40X.

Set straps S1 to S5 to enable the L293D. See figure Below.



Strap S12

DC Input
+ GND

L293D Output

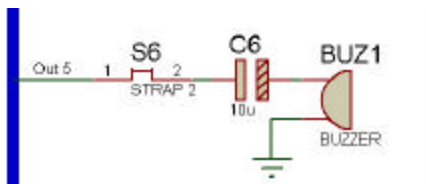
Strap S12 is used to select the DC power to the motor. Set S12 has two positions, right or left. Set S12 to the left as in the picture above to select the + 5 volts on the board.

Set S12 to the right to select the DC input on J11. Connect an external DC power supply to J11. Pin 1 (Left Pin) is the DC +, Pin 2 (Right Pin) is the GND.

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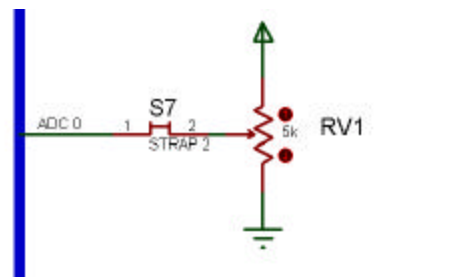
Strap S6 enable the Buzzer on the Out Put 5 of the 18X, 28X or the 40X.

Set strapS6 to enable the Buzzer. See figure Below.



Strap S7 enable the Pot (RV1) on ADC 0 of the 18X, 28X or the 40X.

Strap S7 enable the Pot (RV1) on ADC 0. See figure Below.

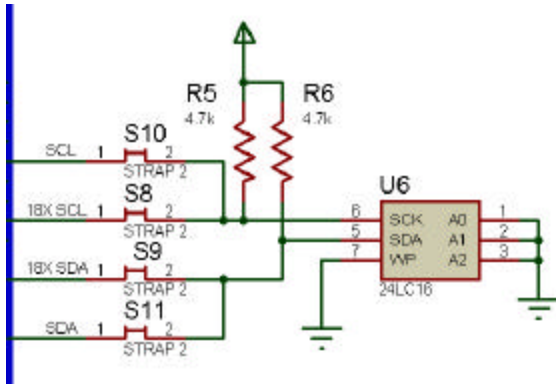


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Straps S8 and S9 enable the EEPROM on the Out put port of the 18X.

Straps S10 and S11 enable the EEPROM on the Out put port of the 28X and the 40X.

Set straps S8 and S9, or S10 and S11 to enable the EEPROM. See figure Below.



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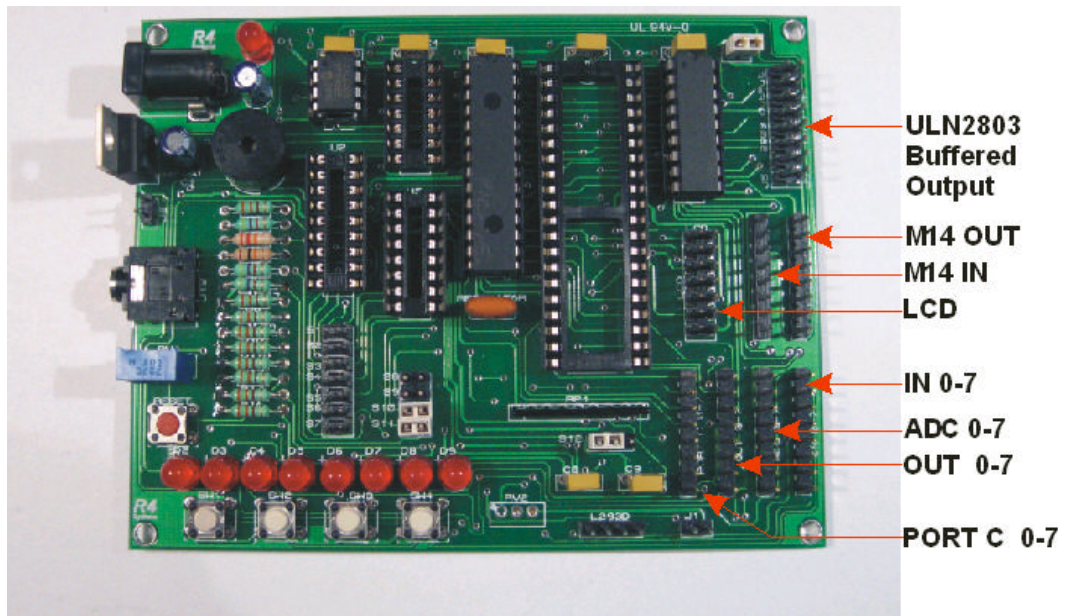
Header Layout

There are seven 8 pin headers on the board. There are:

- IN 0 – 7
- OUT 0 – 7
- ADC 0 – 7
- Port C 0 – 7

- M14-IN
- M14-OUT

- 2803 Output

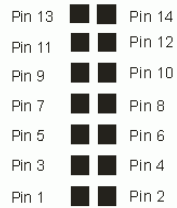


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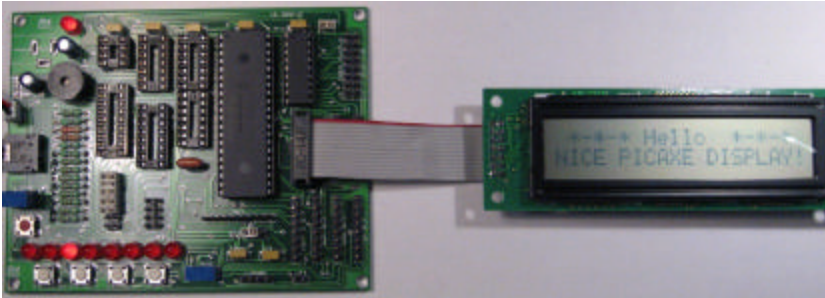
LCD Connection

The board has 1 LCD connector. The connector is a 14 Pin header. The layout is as follows.

14 Pin LDC Port Layout



RV2 is used to control the LCD contrast.



Connection to PC

The connection to the PC is via the Serial Connector.

Connect the 9 Pin DB9 to the PC Com port and connect the Stereo connector to the Serial Connector on the board.

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Sample Test Programs

To check the operation of the completed board, the following two programs can be used.

The following is a simple test program to flash the LEDs. Load the following into the PICAXE editor. Install an 18X, or a 28X or a 40X chip on the board. Connect the PC to the board. On the PICAXE Editor select Run. This will load the Program into the PICAXE on the board. If all is OK the 8 LEDs will flash one after another for 0.1 second each starting with first LED.

```
main:
    pause 10
start:
    high 0
    pause 100
    low 0
    pause 100
    high 2
    pause 100
    low 2
    pause 100
    goto start
```

The following is a simple test program to verify the operation of the two Switches.

Load the following into the PICAXE editor. Install an 18X, or a 28X or a 40X chip on the board. Connect the PC to the board. On the PICAXE Editor select Run. This will load the Program into the PICAXE on the board. If all is OK, SW1 will light LED 2, SW2 will light LED 3, SW3 will light LED 4, and SW4 will light LED 5.

```
main:
    pause 100
start:
    Let pins = pins
    goto start
```

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