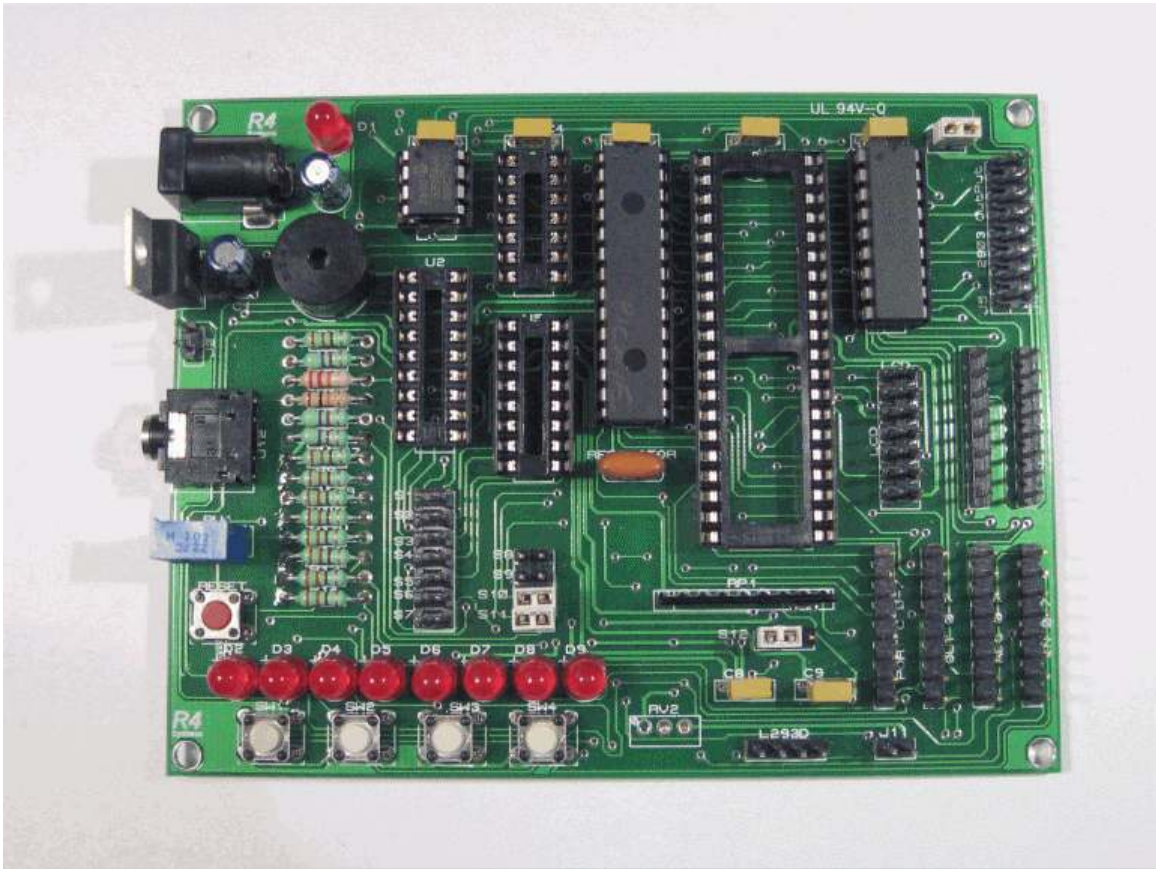


R4 Systems Inc.

4 In One Board Assembly Manual

2007.08.20

Version 1.0



R4 Systems Inc.

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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.

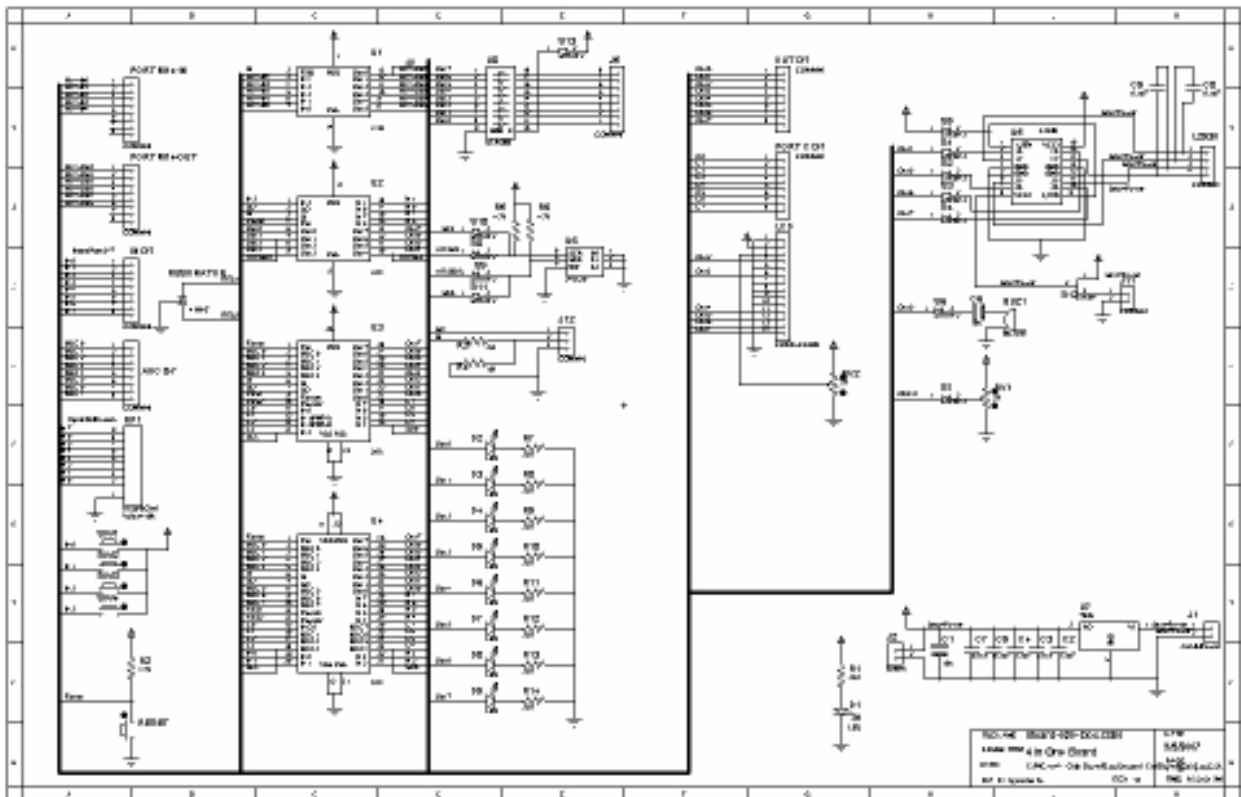
This board is not intended to be used in any Life Support Device.

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

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Circuit Schematic

The following is the Circuit Schematic:



Please see printed copy of schematic supplied with the board.

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View Schematic Using Proteus

The 4 Chip Board CD includes the following:

- Proteus Demo (You can use the Proteus Demo to view the schematic)
- 4 Chip Board Manual
- 4 Chip Board Schematic

To view the schematic you will need to load Proteus on your PC.

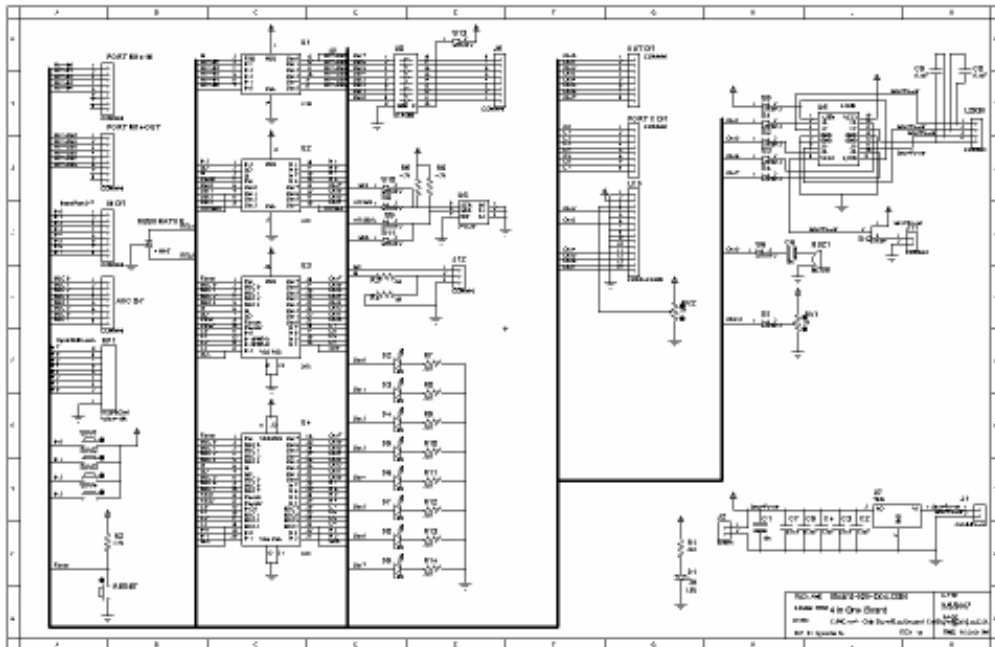
- To load Proteus place the CD in the CD drive and follow the prompts.

To Open the Schematic

- From the Windows Start menu start Proteus Demonstration ISIS.
- Proteus ISIS will start with the following screen.



- From the Proteus File menu select Open Design and navigate to the CD drive.
- On the CD select the file 4 Chip Board
- The following is a screen capture of Proteus with the schematic open.



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The Following is the parts list

Bill Of Materials For 4 In One Board

Design Title : 4 in One Board
Author : R4 Systems Inc.
Revision : 11
Design Created : Saturday, April 14, 2007
Design Last Modified : Wednesday, September 05, 2007
Total Parts In Design : 76

14 Resistors

<u>Quantity</u>	<u>References</u>	<u>Value</u>	<u>Package</u>
9	R1, R7-R14	330	RES40
3	R2, R5, R6	4.7k	RES40
1	R3	22k	RES40
1	R4	10k	RES40

9 Capacitors

<u>Quantity</u>	<u>References</u>	<u>Value</u>	<u>Package</u>
2	C1, C6	10u	ELEC-RAD10
7	C2-C5, C7-C9	0.1uF	CAP20-SQ

8 Integrated Circuits

<u>Quantity</u>	<u>References</u>	<u>Value</u>	<u>Package</u>
1	U1	14M	DIL14-2
1	U2	18X	DIL18
1	U3	28X	DIL28NAR
1	U4	40X	DIL40
1	U5	L293D	DIL16
1	U6	24LC16	DIL08
1	U7	7805	P1
1	U8	ULN2803	DIL18

9 Diodes

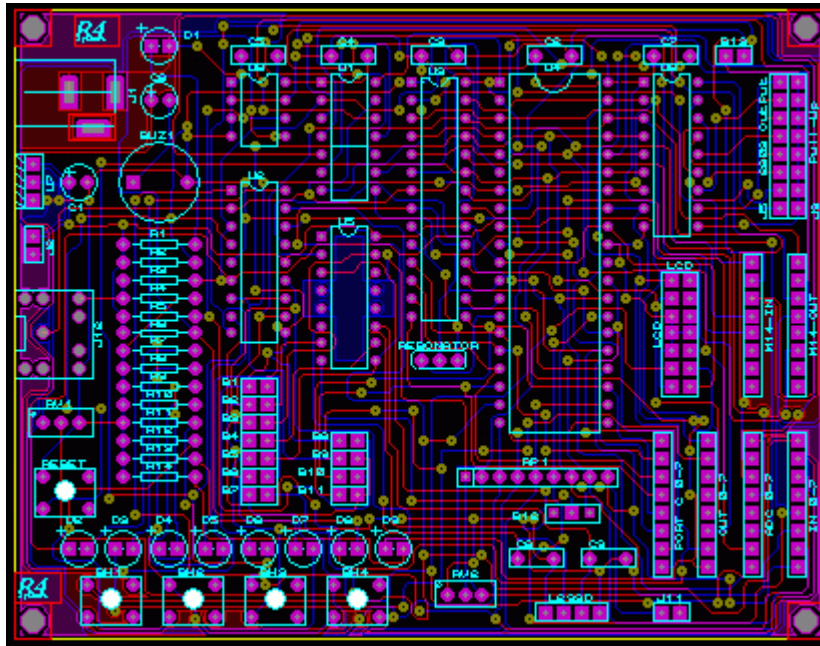
<u>Quantity</u>	<u>References</u>	<u>Value</u>	<u>Package</u>
9	D1-D9	LED	LED

36 Miscellaneous

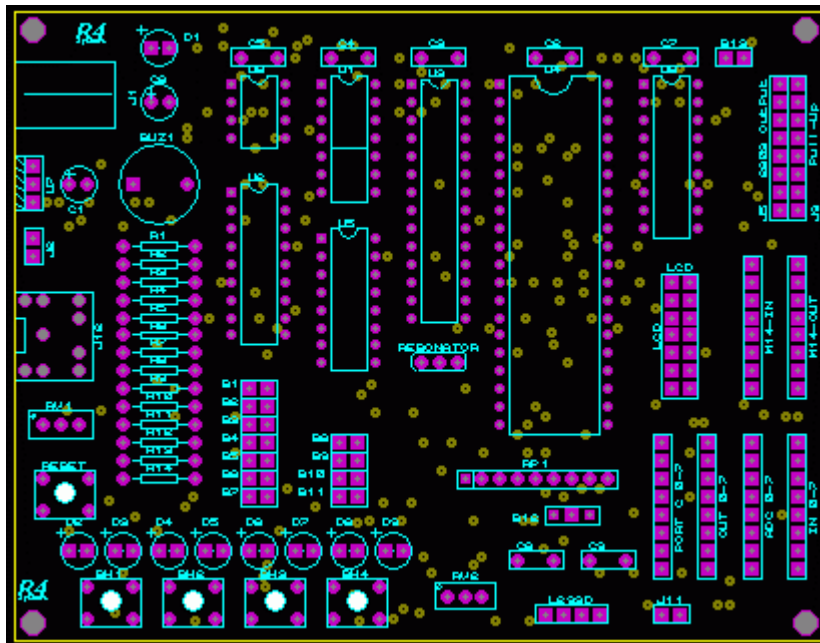
<u>Quantity</u>	<u>References</u>	<u>Value</u>	<u>Package</u>
7	ADC 0-7, IN 0-7, J5, OUT 0-7, PORT C 0-7, PORT M14-IN, PORT M14-OUT	CONN-H8	CONN-SIL8
1	BUZ1	BUZZER	BUZ2
1	J1	2.5 MM Power	2.5 MM CONN
1	J2	Battery	CONN-SIL2
1	J11	CONN-H2	CONN-SIL2
1	J12	CONN-H3	PICAXE SERIAL
1	L293D	CONN-H4	CONN-SIL4
1	LCD	CONN-H14-LCD	CONN-H14-LCD
5	RESET, SW1-SW4		PCB-SW-SPST
1	RESONATOR	4 MHZ	RES
1	RP1	10K	RESPACK-8
2	RV1, RV2	5k	POT
12	S1-S11, S13	STRAP 2	CONN-SIL2
1	S12	STRAP	CONN-SIL3-2

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Board Overview

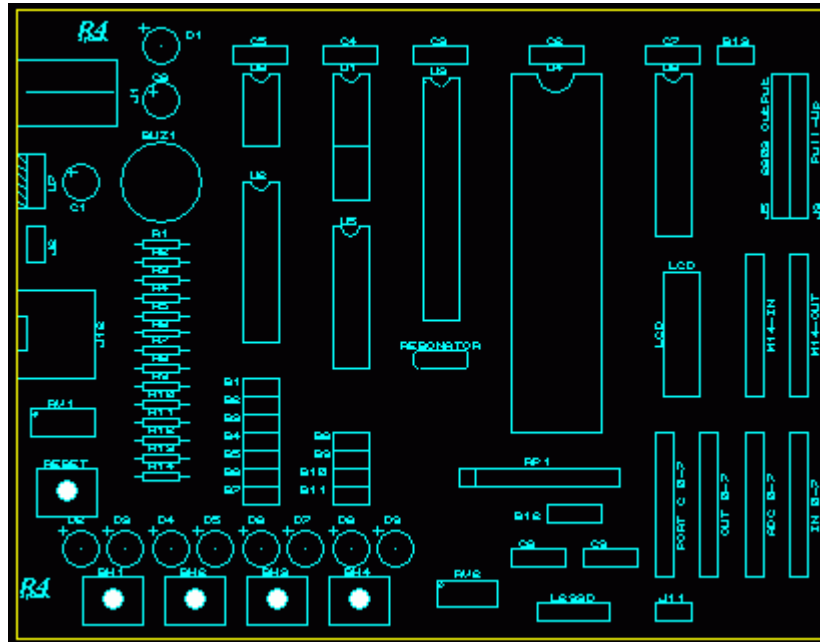


Board overview with Top & Bottom Copper and Silkscreen

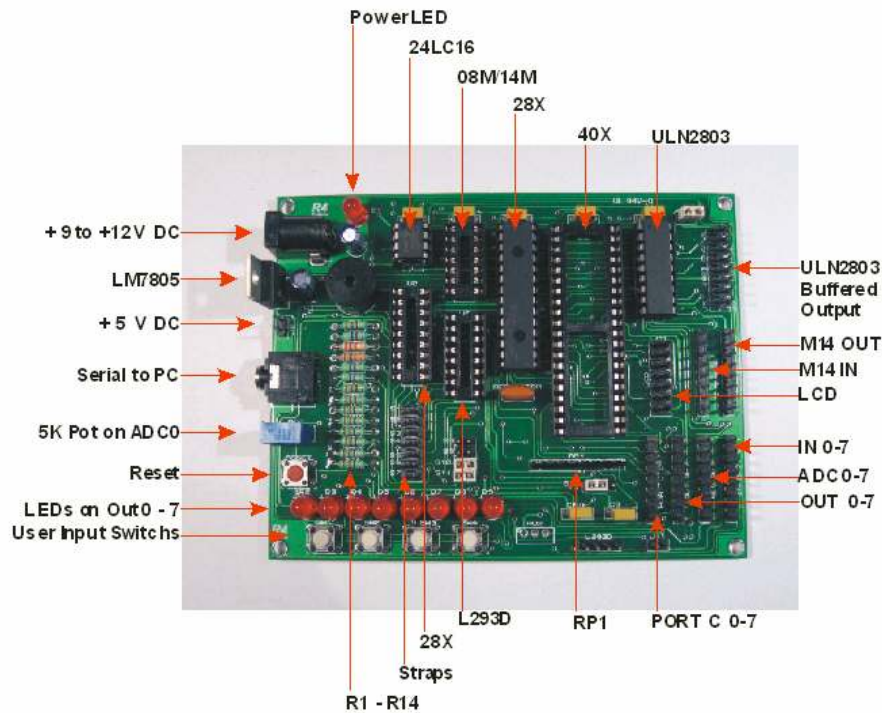


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Silk Screen View



Board overview Parts Placement



4 In One Board Assembly

This board can be populated with a 08M, 14M, 18X, 28X or the 40X, PICAXE microprocessor. **Only 1 (one) processor can be installed at a time. Installing 2 or more processors can result in a short between the +5 Volt supply and ground through the port pins and damaging the processors.**

Installing the components on the board

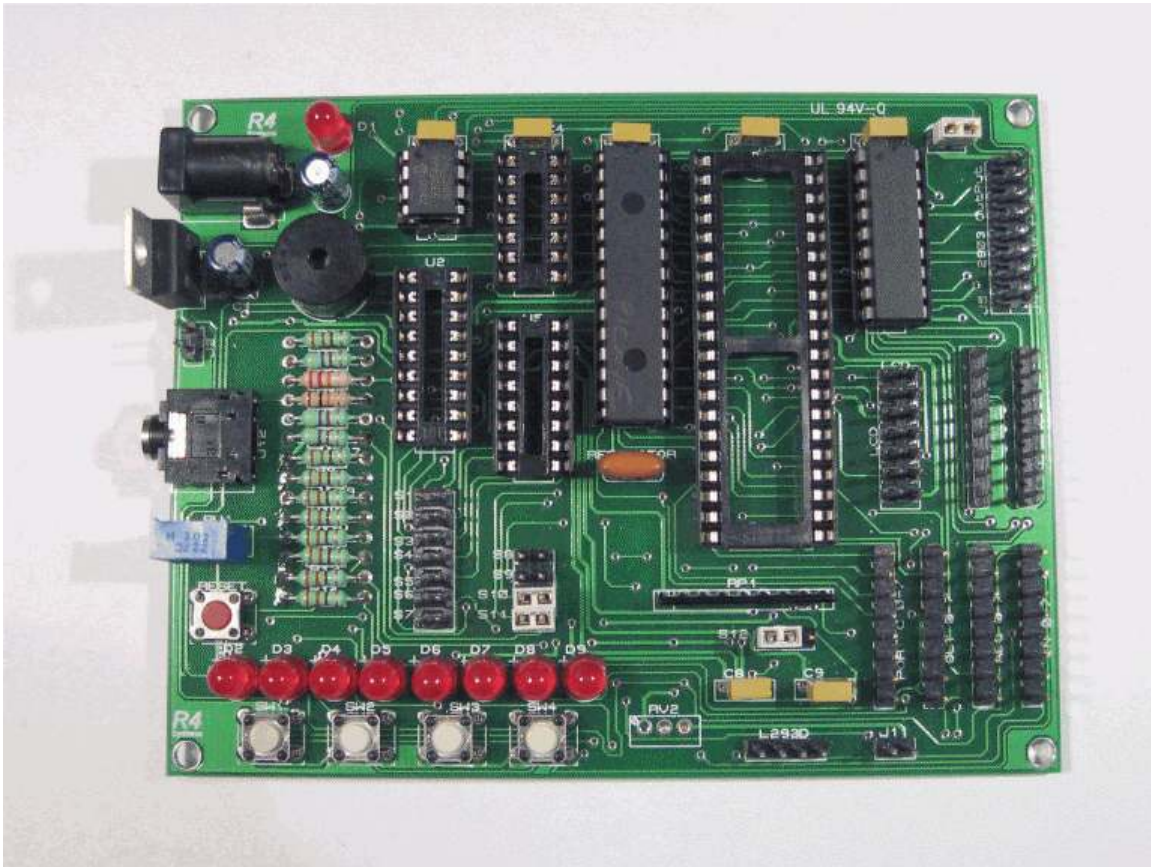
- Install the 14 resistors. (R1 to R14)
- Install the Resistor SIP (RP1) Note Pin 1 to
- Install the sockets
- Install the switches (Reset, SW1, SW2, SW3, SW4)
- Install the LEDs (D1 to D9)
- Install the Resonator
- Install the Power Connector
- Install the Serial Connector
- Install the 2 Electrolytic capacitors (C 1 and C2)
- Install the Capacitors (C2, C3, C4, C5, C 7, C8, C9)
- Install the buzzer
- Install 14 Pin header for option straps S1 to S7
- Install 8 Pin header for option straps S8 to S11
- Install Port I/O headers.

Information on how to set the options for this board are in the Operations Manual.

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Completed Board

Your completed board should look like this:



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5-Volt Power Option

If you have a 5-Volt Power supply available, you can leave out the 7805 (U4). Power can be applied to the board using the 5-Volt connection. See photo below:

