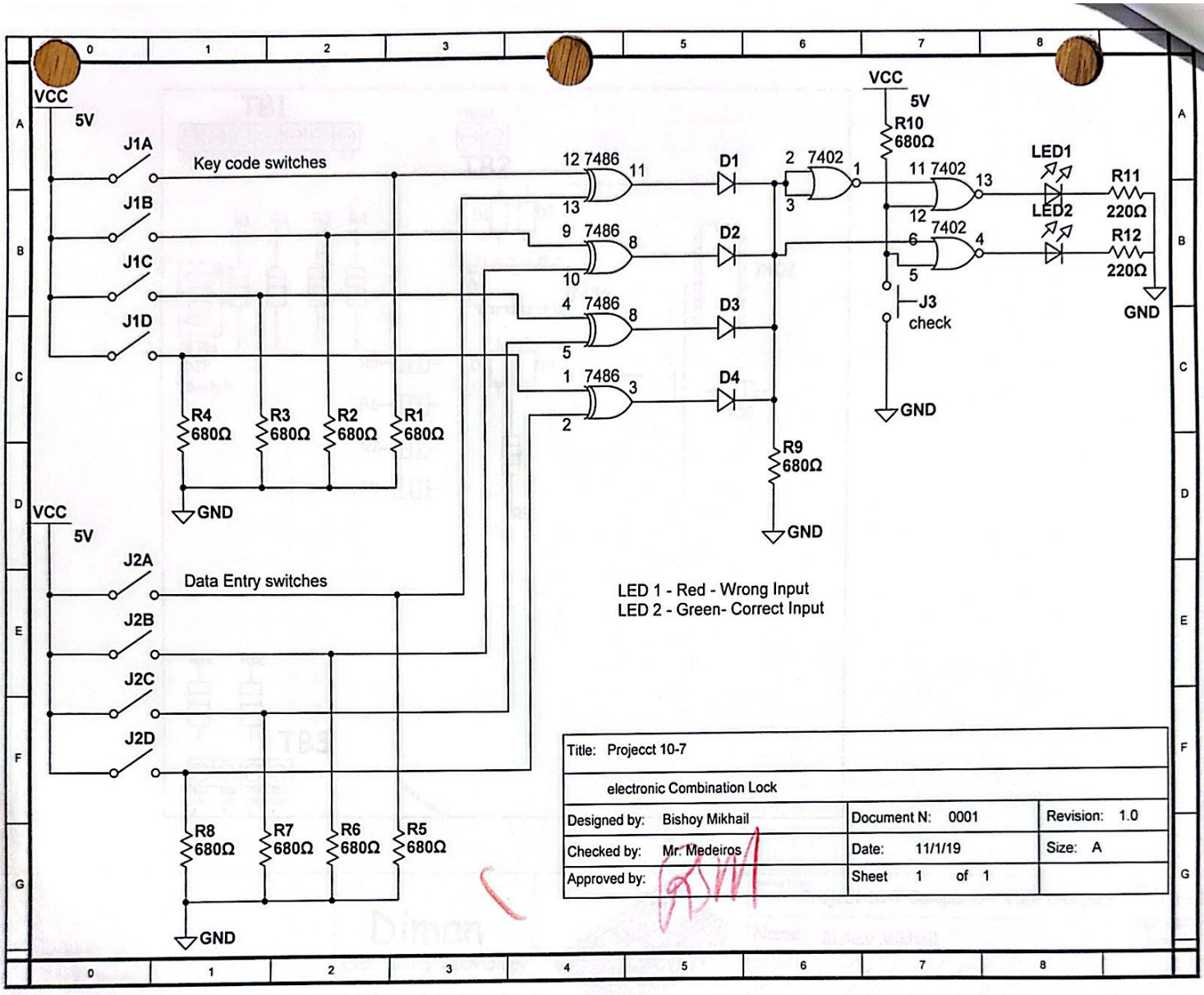
GR10 Project 10-7

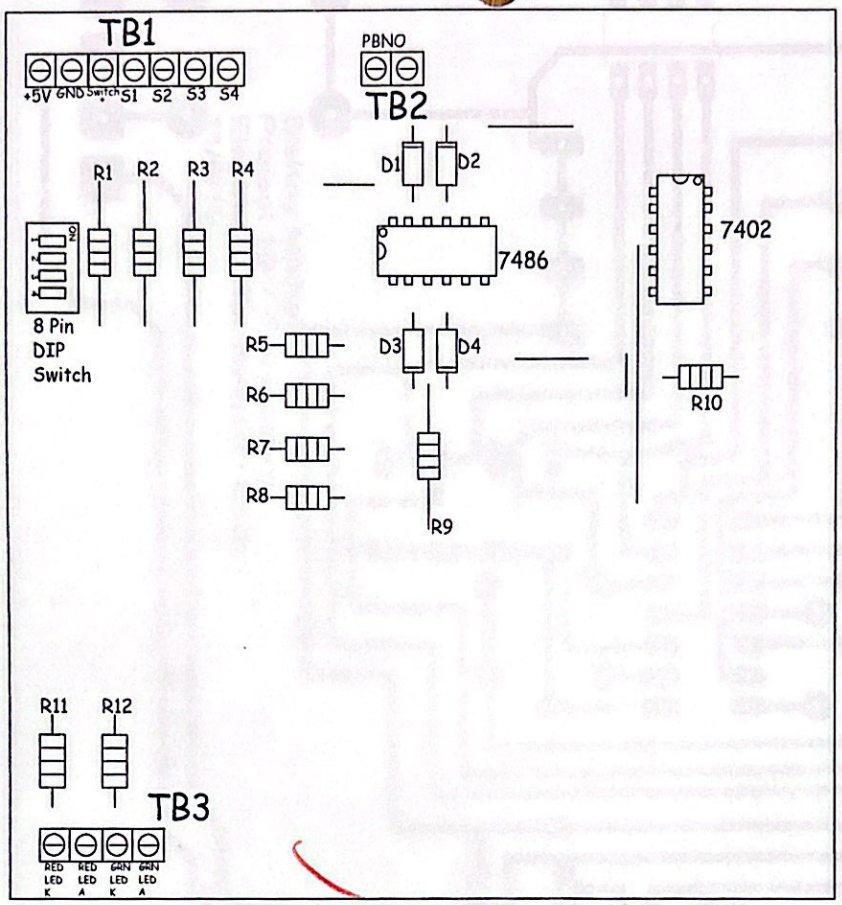
Electronic Combination Lock

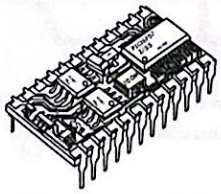
Bishoy Mikhail

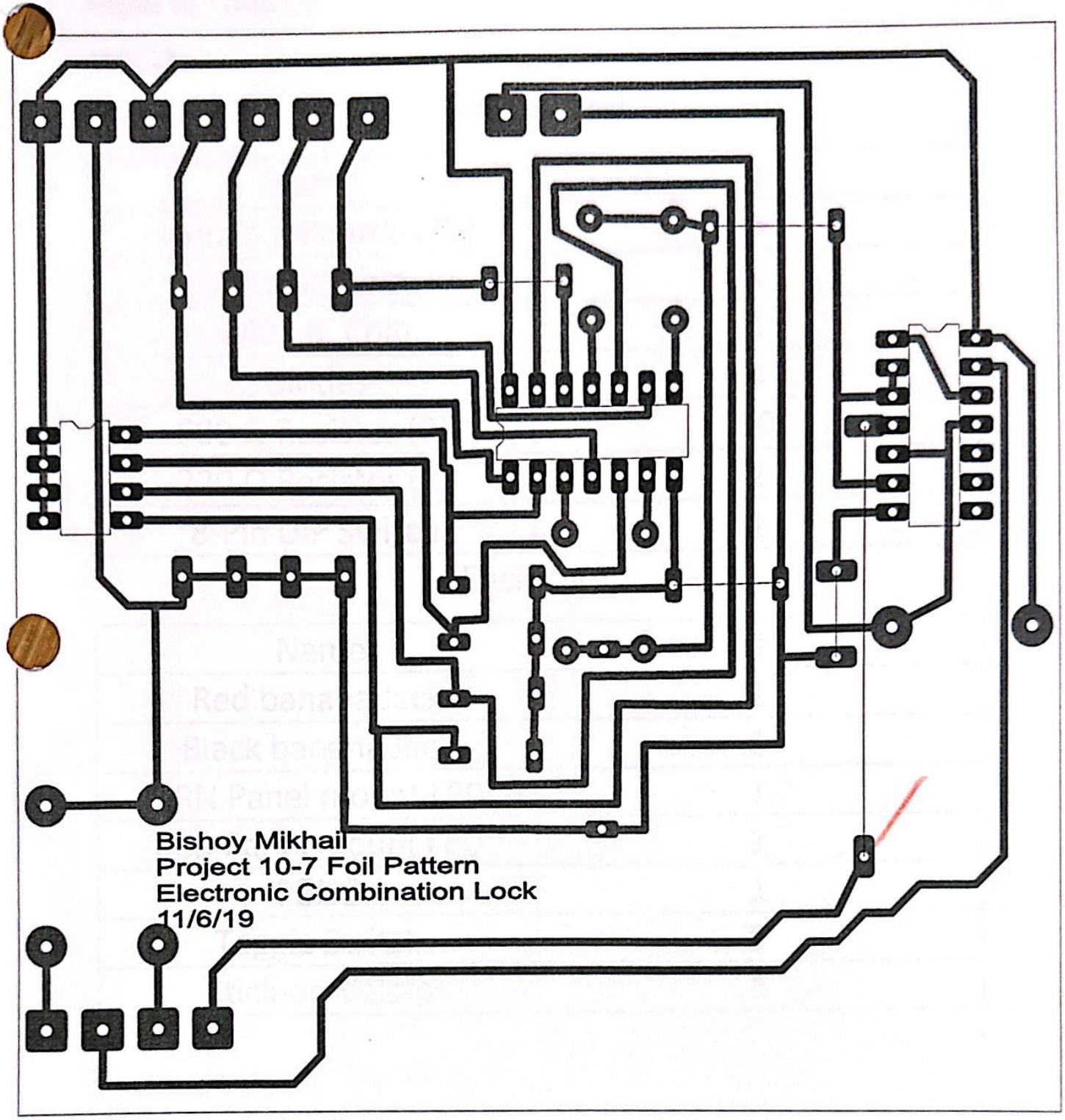
11/1/19

B-Weeks





	Diman Electronics Technology Instructor: Mr. Medeiros		Drawing Title: Project 10-7 Component View Diagram Name: Bishoy Mikhail	Date: 11-6-19 Page Number: 1 of 1



Bishoy Mikhail

Project 10-7 Parts list

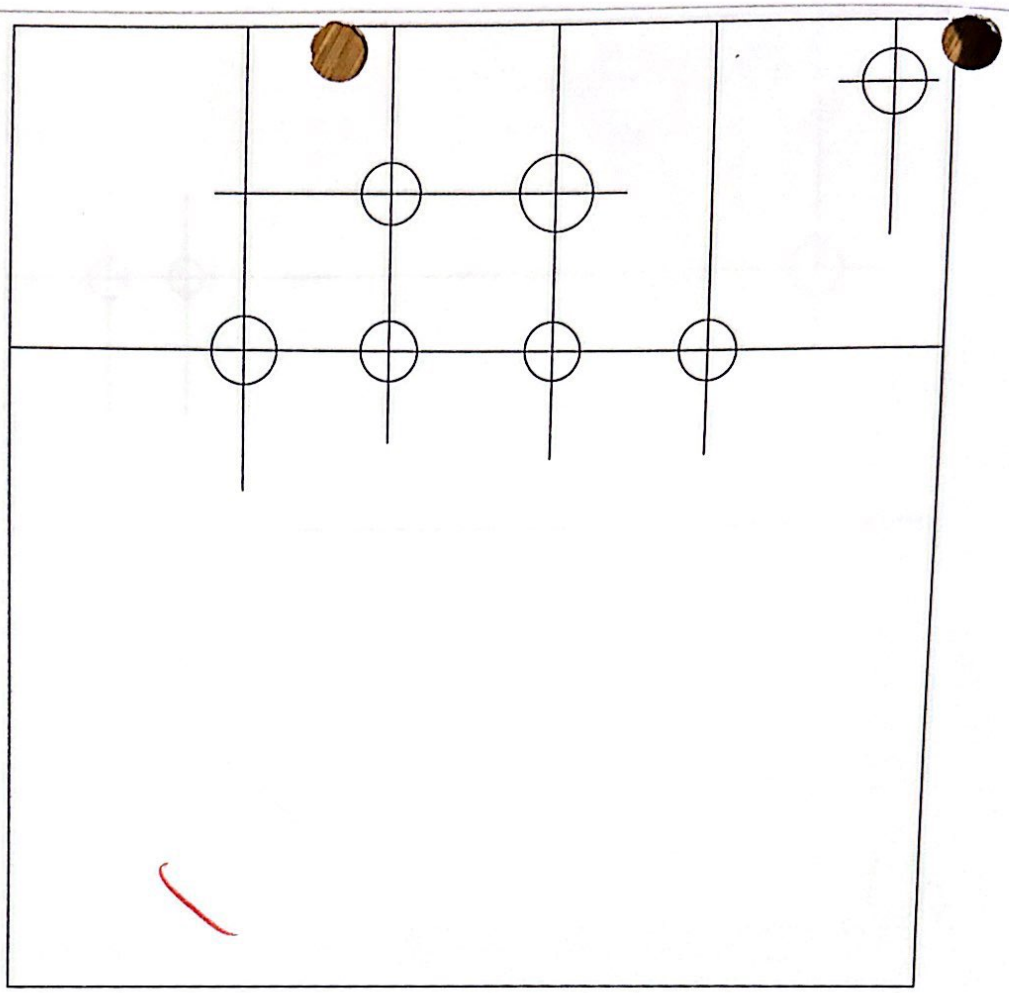
11/6/19

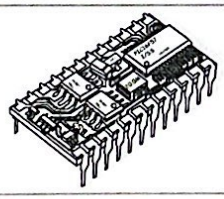
Components

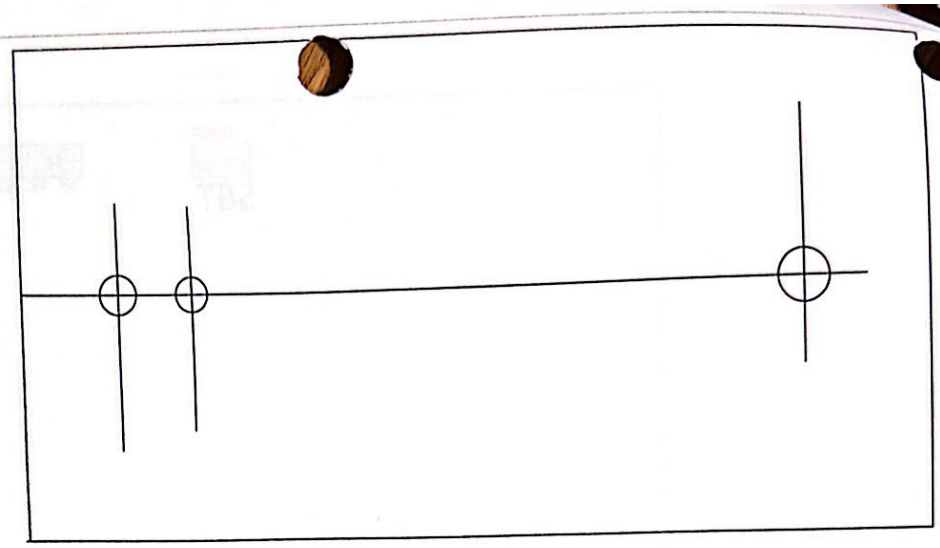
Name	#
Terminal Boards (TB)	6
7486 IC Chip	1
7402 IC Chip	1
Diodes	4
680 Ω Resistor (R)	10
220 Ω Resistor (R)	2
8-Pin DIP Switch	1

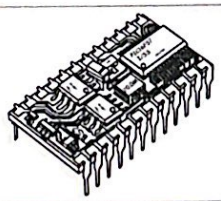
Enclosure

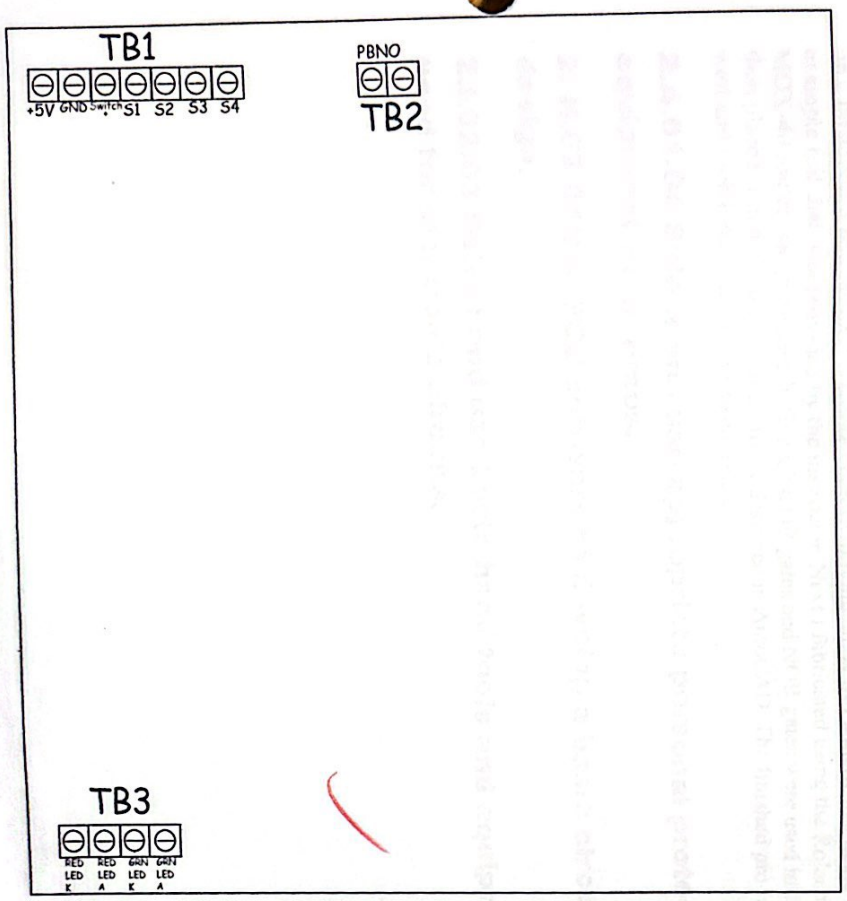
Name	#
Red banana Jack	1
Black banana Jack	1
GRN Panel mount LED	1
RED Panel mount LED	1
PBNO	1
Toggle Switch	5
Stick-on Velcro	1



	Diman Electronics Technology Instructor: Mr. Medeiros		Drawing Title: Project 10-7 Enclosure diagram	Date: 11-5-19
			Name: Bishoy Mikhail	Page Number: 1 of 2

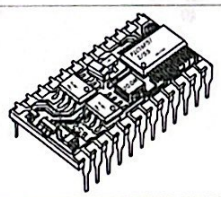


	Diman Electronics Technology Instructor: Mr. Medeiros		Drawing Title: Project 10-7 Enclosure diagram Name: Bishoy Mikhail	Date: 11-5-19 Page Number: 2 of 2



Diman
Electronics Technology

Instructor: Mr. Medeiros



Drawing Title: Project 10-7 Interconnection Diagram

Date: 11-6-19

Name: Bishoy Mikhail

Page Number: 1 of 1

Bishoy Mikhail

Electronics Technology

Electronic Combination Lock

November 6, 2019

Exclusive-OR

Tech Report

The task was to create an electronic combination lock using different gates. This task was performed individually. A schematic was made using Digital Multisim. I then made the circuit on a breadboard and ensured it worked before moving on. A foil pattern was made using an example foil that was provided by the instructor. Next I fabricated using the Roland Modela MDX-40 router and populated it. Excusive OR gates and NOR gates were used in the design. I then placed it in a plastic enclosure that I designed in AutoCAD. The finished product turned out well and took three school days to complete.

2.A.01.04 Select and use appropriate personal protective equipment at all times.

2. H.02.01Use PCB software to develop a basic circuit design.

2.I.02.03 Select and use basic hand tools and equipment used for electronic circuits.