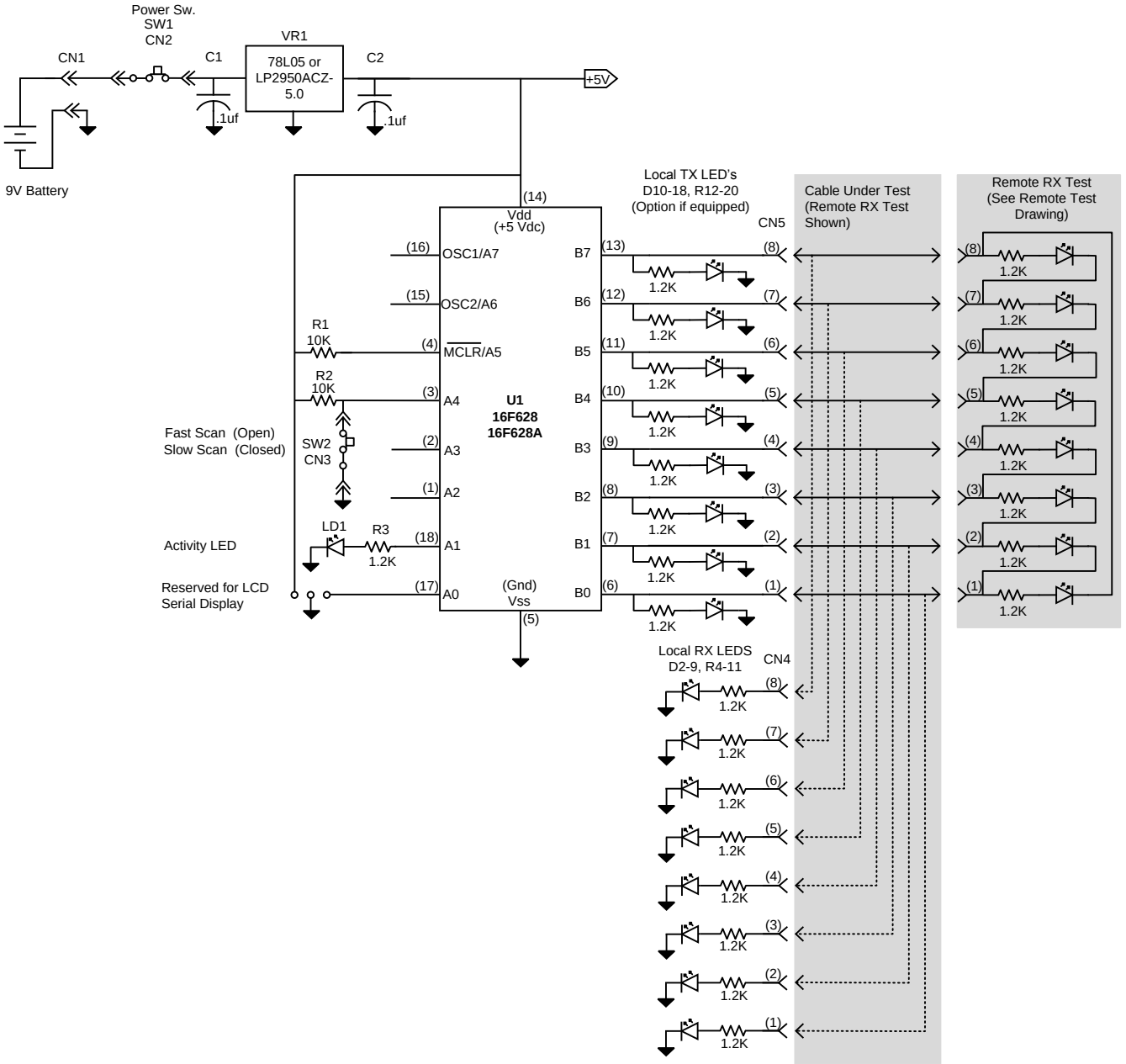
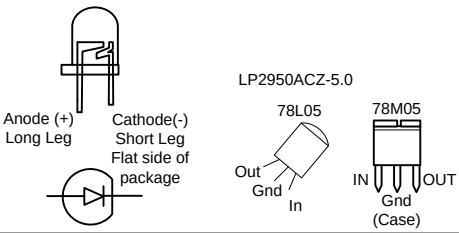


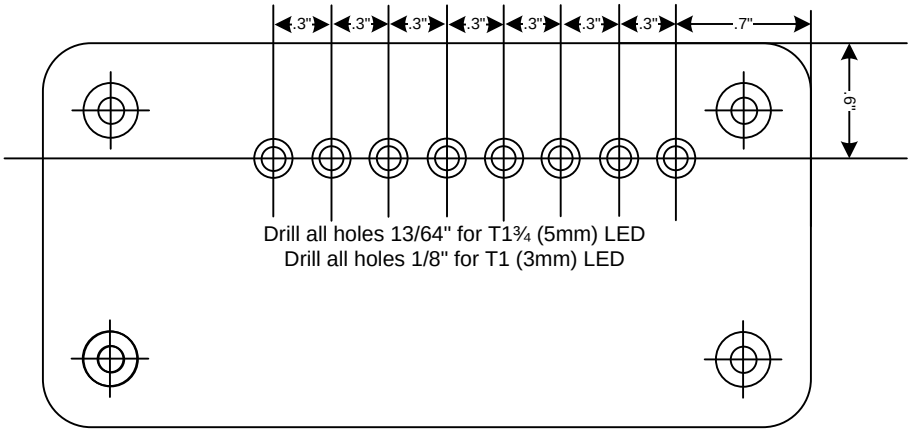
Date:	Revision/Addition/ Note	By:
Oct.19,2016	Initial Drawing	GSC
Oct.19,2016	Current limit resistor will depend on the LED. Adjust value depending on the brightness and LED you use.	GSC
Oct.19,2016	At boot up, Hold all PortB pins low. Then start at PortB.0 and take them High one at a time. The local test will light each LED per pin that has continuity. The LED for the cable pin under test at the remote end will get its ground from another wire. But that also means that for any bad connection, 2 LEDS wont light. But if you have one bad pin, you are going to replace the connector anyway.	GSC
Oct.19,2016	Added a switch and software for a Fast Scan (.2 Sec per port) or Slow Scan (.5 Sec per port) of all ports .	GSC
Oct.19,2016	Reserving PortA.0 for a LCD serial display to be used at a later date.	GSC
Oct.20,2016	Software RJ45CBTR.hex (version 1)	GSC
Oct. 28,2016	Added activity light on Port A.1, changed software. Can eliminate the Local TX LED's now if desired. Software RJ45CBTR11.hex. Added connector to switches and battery. Added option on PCB of both JST HX(.1" or 2.54mm) or JST PH (.078" or 2mm) connectors.	GSC
Nov.10,2016	At boot up, the program makes one check of the state of the fast/ slow scan switch. If the switch is changed in the middle of the scan, the program will have to run through the rest of the scan steps before it picks up the change of state of the scan switch.	GSC



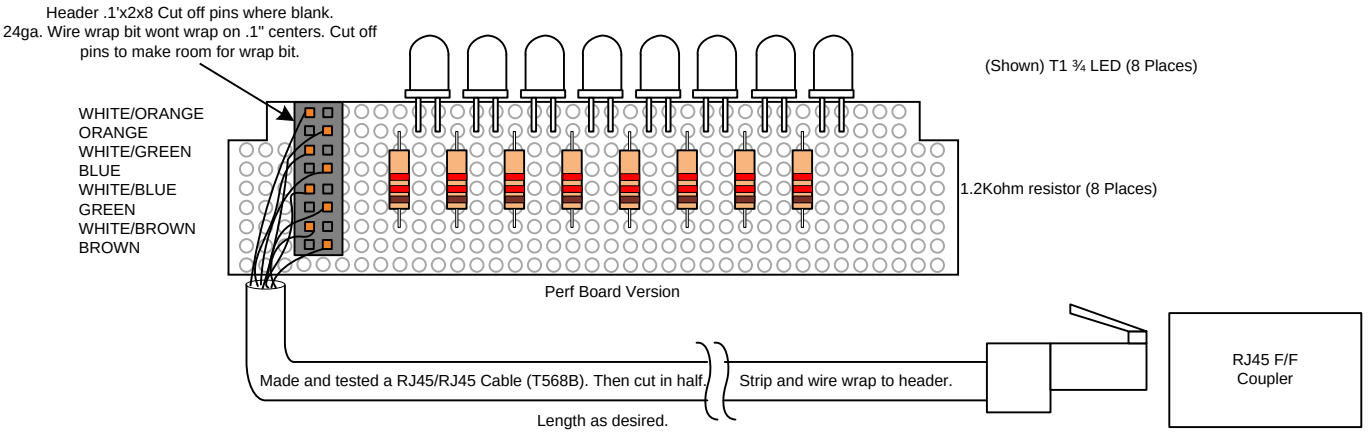
Print Check .5"x.5"

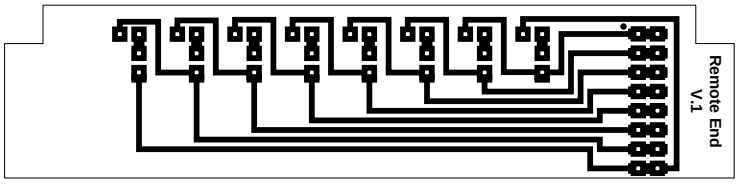
Drawn By: Gerald Crenshaw WD4BIS	Date: Oct. 19, 2016	From the bench of: Amateur Radio Station WD4BIS	Page 1 of 6
Designed By: Gerald Crenshaw WD4BIS	Date: Oct. 19, 2016	Title: Simple RJ45 cable tester with remote	Scale: None
Checked By: Janet Crenshaw WB9ZPH	Date: Oct. 19, 2016		

Radio Shack 4"x2"x1"
270-1802 Project Enclosure
Plastic Lid Option

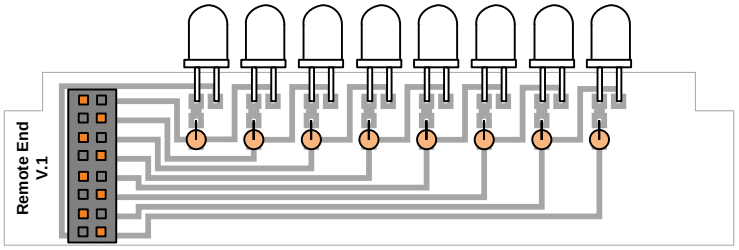


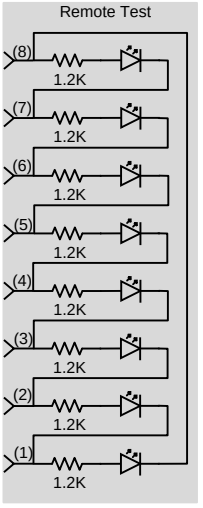
Drill all holes 13/64" for T1¾ (5mm) LED
Drill all holes 1/8" for T1 (3mm) LED



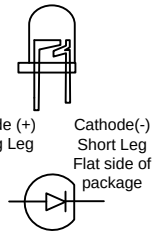


PWB Version



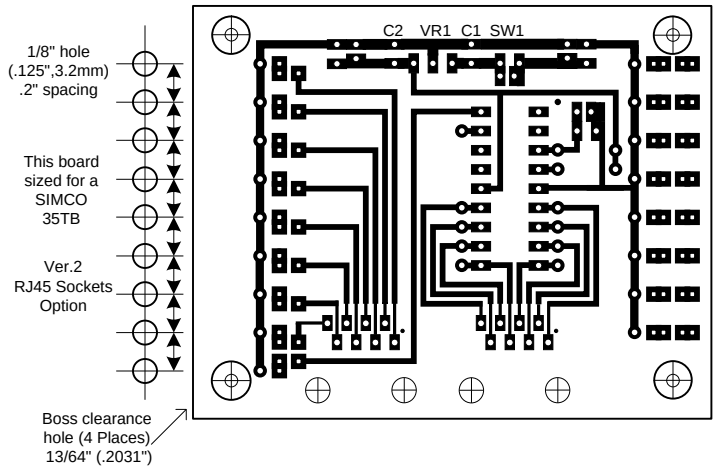


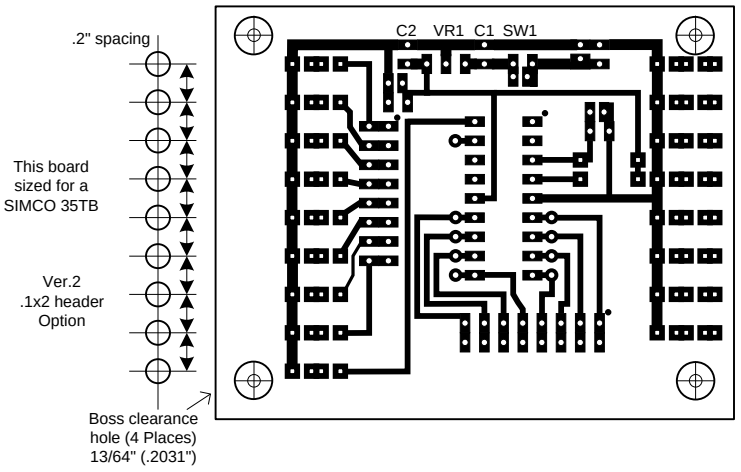
Date:	Revision/Addition/ Note	By:
Oct. 24, 2016	Initial Drawing: See drawing Radio Shack 4x2x1 Project Enclosure for reference.	GSC GSC
Oct. 24, 2016	Found it was faster and easier to make and test a RJ45/RJ45 cable then cut it in half. Add a RJ45/RJ45 F/F coupler to end rather than use a RJ45 socket on the perf board. Also made machining easier as I did not have to mill out a RJ45 socket hole. Center then drill a ¼" hole on one end of enclosure. Pass cable through hole, strip, then wire wrap to header.	GSC
Oct. 24, 2016	Remote prototype worked and very sturdy.	GSC
Oct. 24, 2016	Could not fit the local test unit in the same size box plus a 9V battery. Have some new enclosures on the way so the main unit construction will wait for a later date.	GSC
Nov.7, 2016	Added PWB version and component placement. Sized the pads so surface mount resistors can be used if desired.	GSC

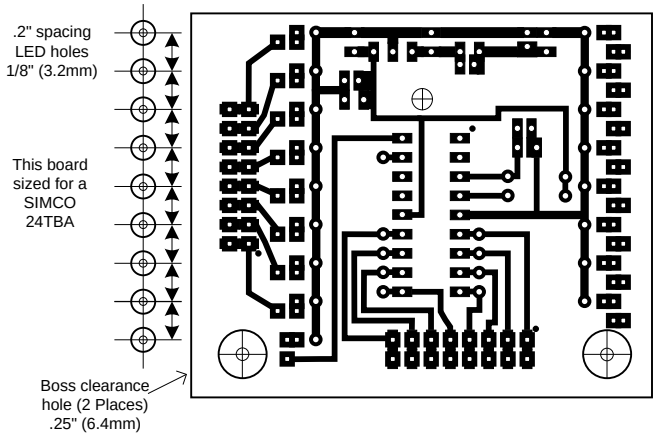


Print Check .5"x.5"

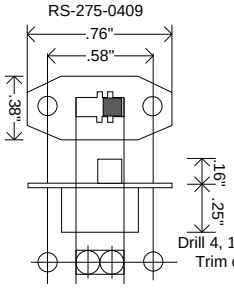
Drawn By:	Gerald Crenshaw WD4BIS	Date: Oct. 24, 2016	From the bench of: Amateur Radio Station WD4BIS	Page 2 of 6
Designed By:	Gerald Crenshaw WD4BIS	Date: Oct. 24, 2016	Title: Simple RJ45 cable tester. Remote End	Scale: 1:1
Checked By:	Janet Crenshaw WB9ZPH	Date: Oct. 24, 2016		







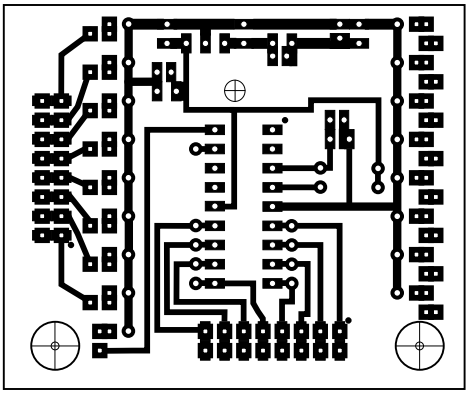
Date:	Revision/Addition/ Note	By:
Oct.29, 2016	Initial Drawing: Sizing the board to fit a SIMCO 35TBA (Black) plastic enclosure.	GSC
Oct.29, 2016	Received the wrong JST connectors. Ordered 2.54 mm pigtails and got 2.0mm. Putting in the option on the board for both connectors. Have ordered the 2.0mm plugs to mate with them.	GSC
Oct.29, 2016	Decided to use T1 (3mm) standard LEDS (1/8" hole). Tried cutting holes for rectangular LED's but too time consuming with the equipment I have.	GSC
Oct.29, 2016	Will have to add 8 jumpers from the chip to the local TX LEDs if equipped.	GSC
Oct.31, 2016	Used same base board but sized to fit in a SIMCO 24TBA	GSC
Nov. 5, 2016	Artwork proved out for board in SIMCO 24TBA. Prototype works well.	GSC
Nov. 5, 2016	Added Radio Shack switch outline for reference.	GSC
Nov. 7, 2016	Added art for a 5V output connector option for LCD Display. Added art to Pin 17 (Port A.0) for LCD display. Fixed a couple of dimensional issues.	GSC
Nov.18, 2016	Drawing for SIMCO 24TBA https://www.simcobox.com/uploads/files/24tba.pdf Drawing for SIMCO 35TBA https://www.simcobox.com/uploads/files/35tb.pdf	

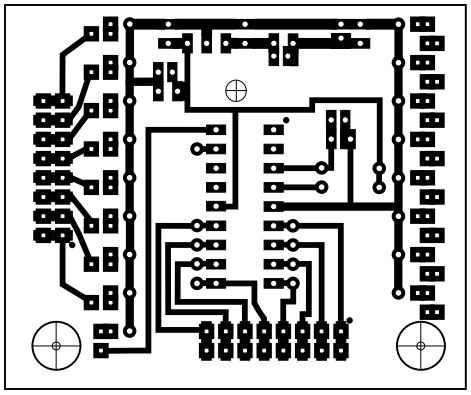


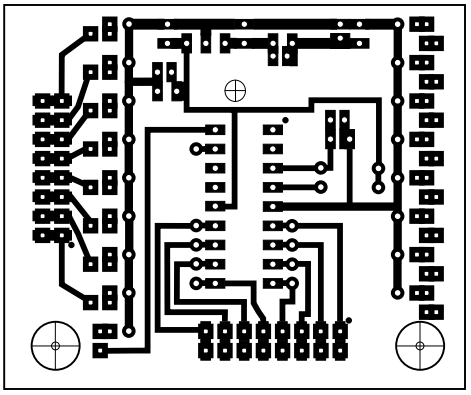
Drill 4, 1/16" holes as shown. Drill center holes to 1/8"
Trim out material to square to pass slide. Use #2 hardware to secure.

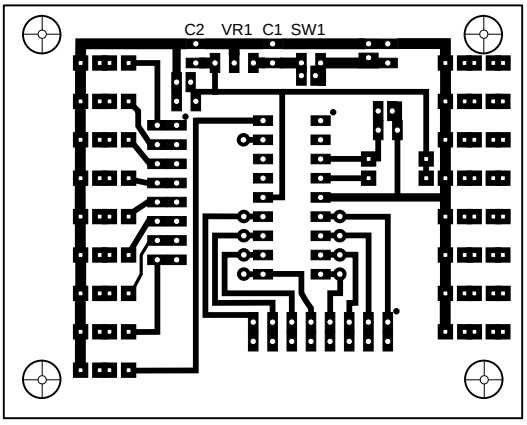
Print Check .5"x.5"

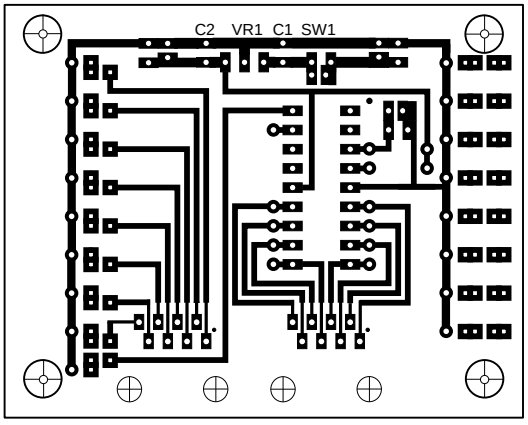
Drawn By: Gerald Crenshaw WD4BIS	Date: Oct. 29, 2016	From the bench of: Amateur Radio Station WD4BIS	Page 3 of 6
Designed By: Gerald Crenshaw WD4BIS	Date: Oct. 29, 2016	Title: Simple RJ45 cable tester. Master PCB	Scale: 1:1
Checked By: Janet Crenshaw WB9ZPH	Date: Oct. 29, 2016		

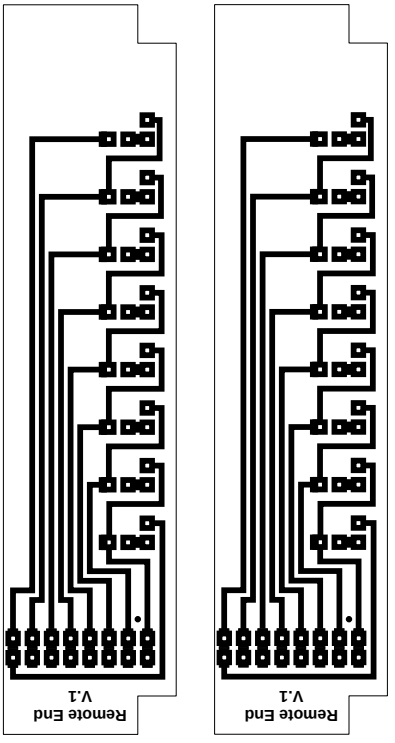


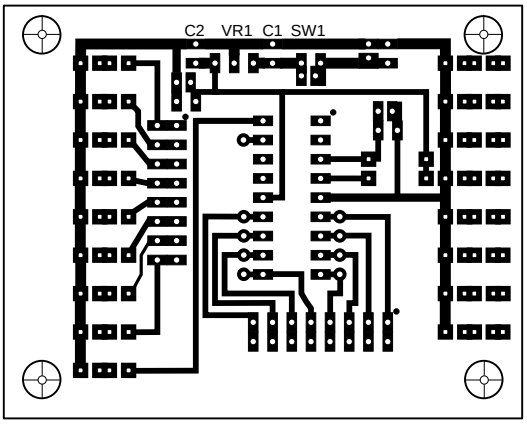


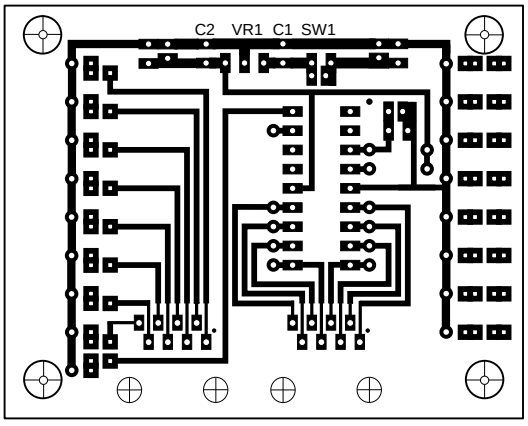


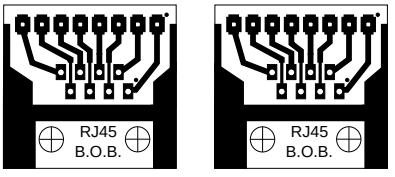


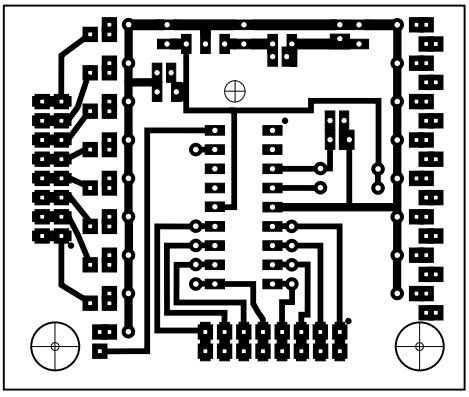


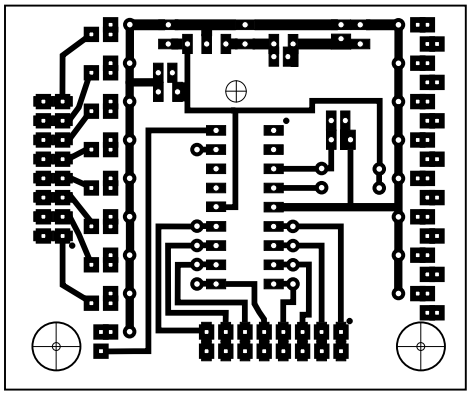


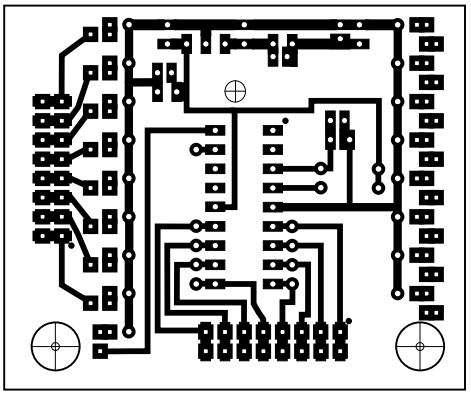






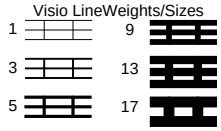






Date:	Revision/Addition/ Note	By:
Oct.31, 2016 Nov.8, 2016	Print to laser printer, mirror image. Paper shiny side up in tray. Tried various times and temperatures on the heat press transfer. 350 degrees for 5 minutes (300 seconds) works the best so far.	GSC GSC

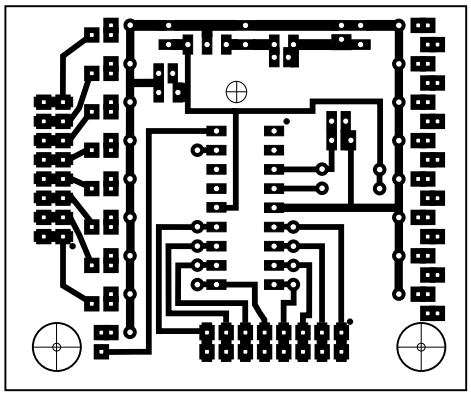
Visio LineWeights/Sizes



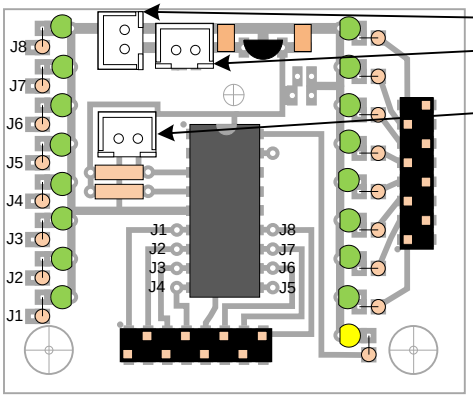
Print Check .5"x.5"

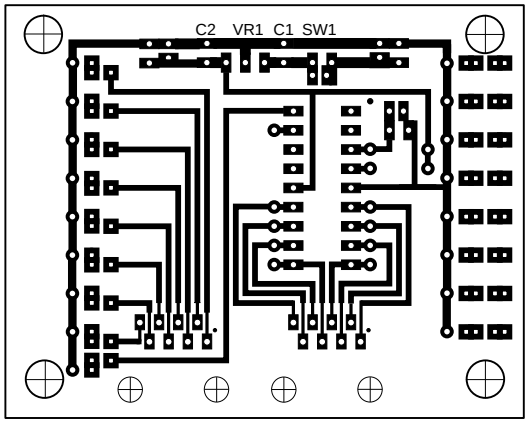
Drawn By: Gerald Crenshaw WD4BIS	Date: Oct. 31, 2016	From the bench of: Amateur Radio Station WD4BIS	Page 4 of 6
Designed By: Gerald Crenshaw WD4BIS	Date: Oct. 31, 2016		
Checked By: Janet Crenshaw WB9ZPH	Date: Oct. 31, 2016	Title: Simple RJ45 cable tester. PCB Group and Dupe	Scale: 1:1

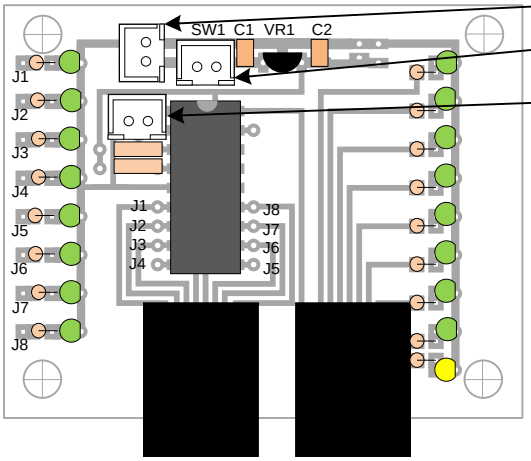
Copper Side

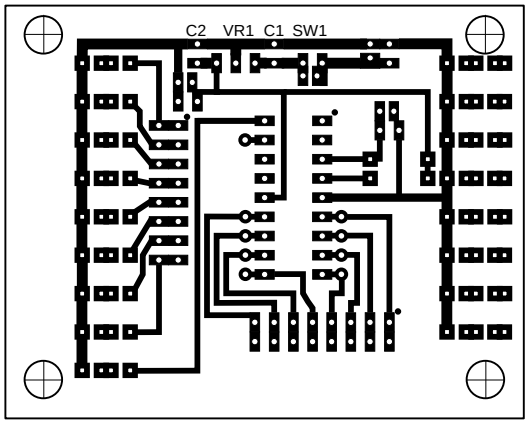


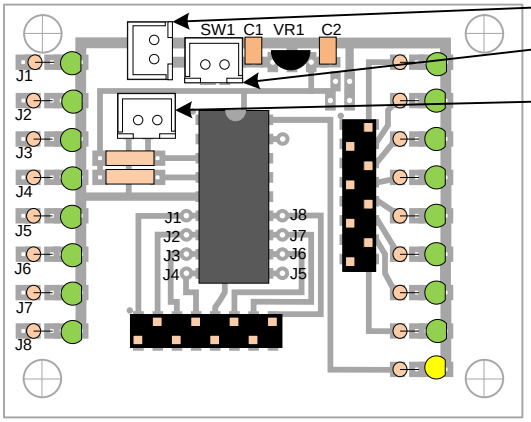
Component Side









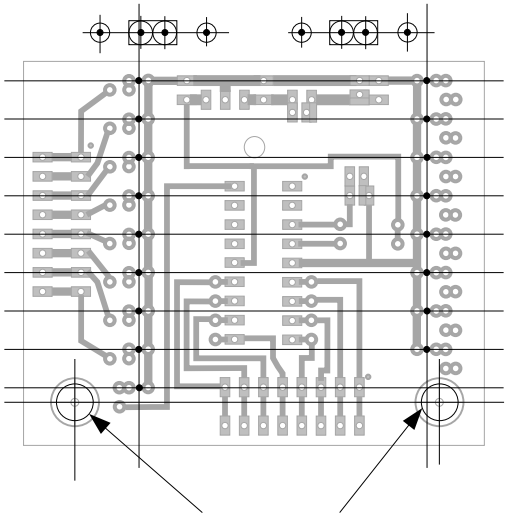


Date:	Revision/Addition/ Note	By:
Nov 1, 2016	Initial drawing.	GSC
Nov 1, 2016	Jumper J1-J1 … J8-J8, if local TX LEDS are going to be equipped.	GSC

Print Check .5"x.5"

Drawn By:	Gerald Crenshaw WD4BIS	Date:	Nov. 1, 2016	From the bench of: Amateur Radio Station WD4BIS	Page 5 of 6
Designed By:	Gerald Crenshaw WD4BIS	Date:	Nov. 1, 2016		
Checked By:	Janet Crenshaw WB9ZPH	Date:	Nov. 1, 2016	Title: Simple RJ45 cable tester. PCB Component Placement	Scale: 1:1

Starter Hole Drilling Template for Simco 24TBA
Print and cut to size.



Cutout to black line with Xacto Knife.

Place Template face up. Place the cut outs over the mounting bosses in top of enclosure.(Non battery compartment side) of SIMCO 24TBA.

Tape with scotch tape the paper to enclosure.

Center Punch LED and switch holes only through paper and into plastic.

Drill starter holes #60 at center punch dimples for the holes you are going to equip.

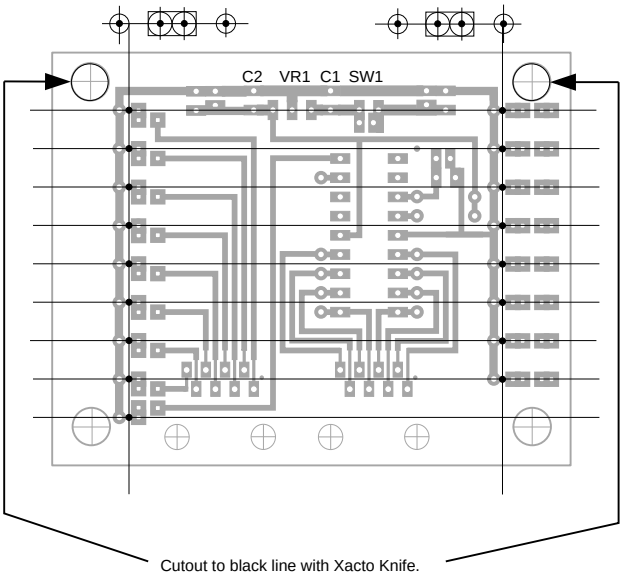
Drill all starter holes out to 1/16".

Drill Switch holes (center holes only) 1/8".

Drill LED holes that you are going to equip 1/8".

Drill switch mounting holes 3/32" Use #2 hardware to mount.
#4 nuts will not allow the switch to make a full travel.

Starter Hole Drilling Template for Simco 35TB
Print and cut to size



Cutout to black line with Xacto Knife.

Place Template face up. Place the cut outs over the mounting bosses in top of enclosure.(Non battery compartment side) of SIMCO 35TB.

Tape with scotch tape the paper to enclosure.

Center Punch LED and switch holes only through paper and into plastic.

Drill starter holes #60 at center punch dimples for the holes you are going to equip.

Drill all starter holes out to 1/16".

Drill Switch holes (center holes only) 1/8".

Drill LED holes that you are going to equip 1/8".

Drill switch mounting holes 3/32" Use #2 hardware to mount.
#4 nuts will not allow the switch to make a full travel.

Date:	Revision/Addition/ Note	By:
Nov 2, 2016	Initial Drawing	GSC
Nov 2, 2016	Added marking and drilling instructions after machining one of the SIMCO 24TBA enclosures.	GSC

Print
Check
.5"x.5"

Drawn By:	Gerald Crenshaw WD4BIS	Date: Nov. 2, 2016	From the bench of: Amateur Radio Station WD4BIS	Page 6 of 6
Designed By:	Gerald Crenshaw WD4BIS	Date: Nov. 2, 2016		
Checked By:	Janet Crenshaw WB9ZPH	Date: Nov. 2, 2016	Title: Simple RJ45 cable tester. Enclosure Drilling Template	Scale: 1:1