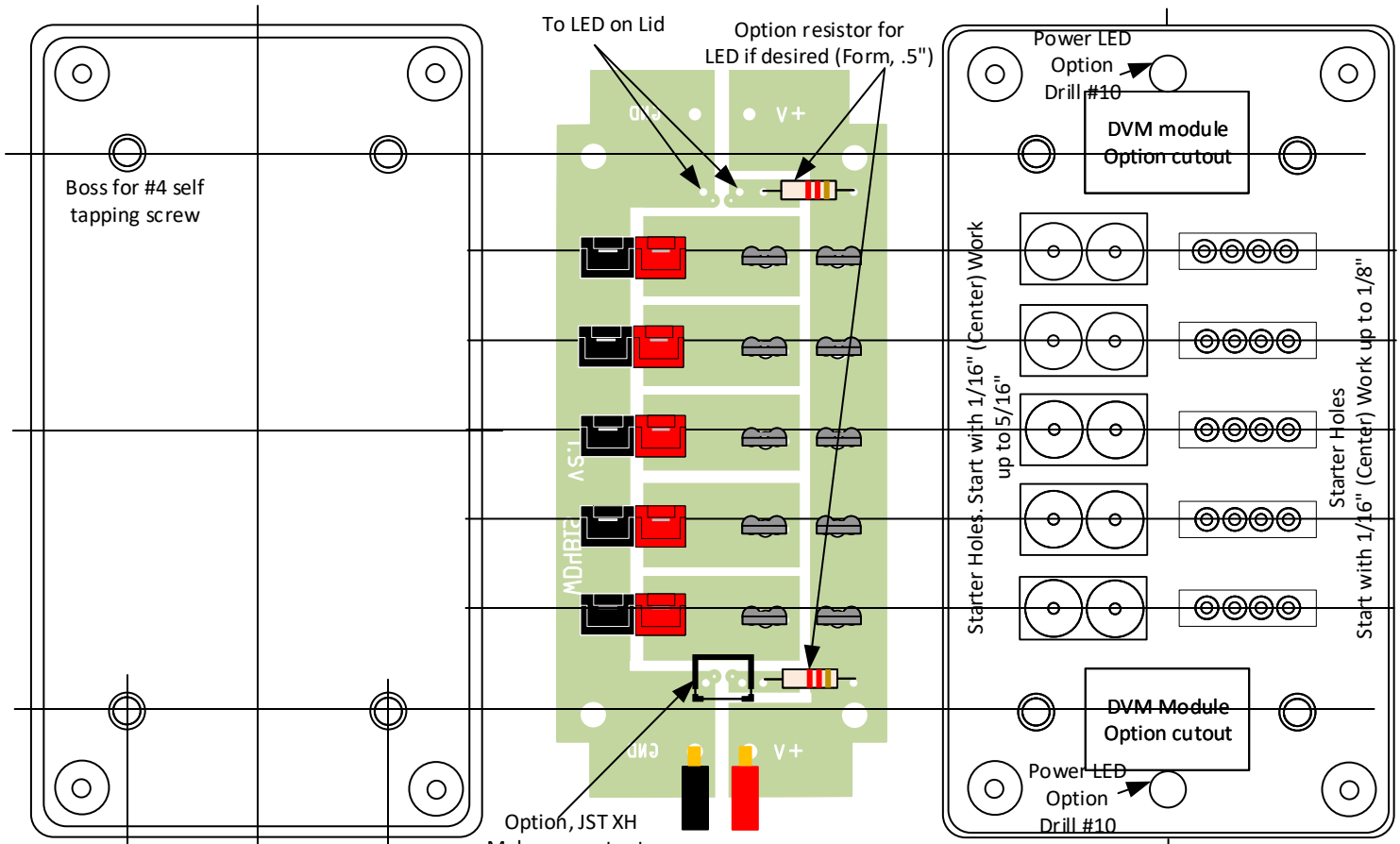
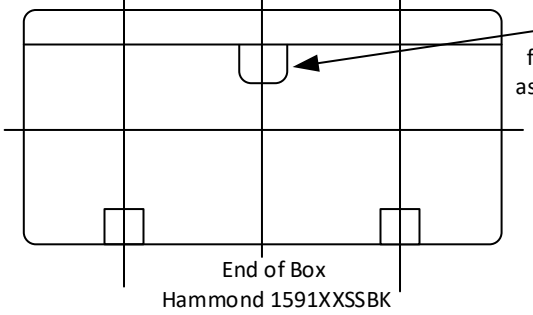
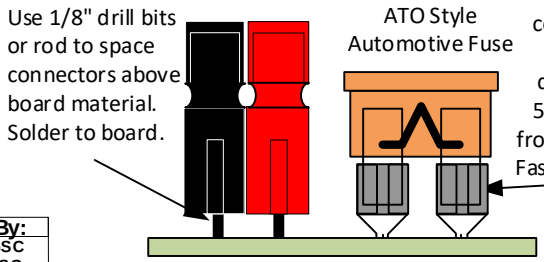
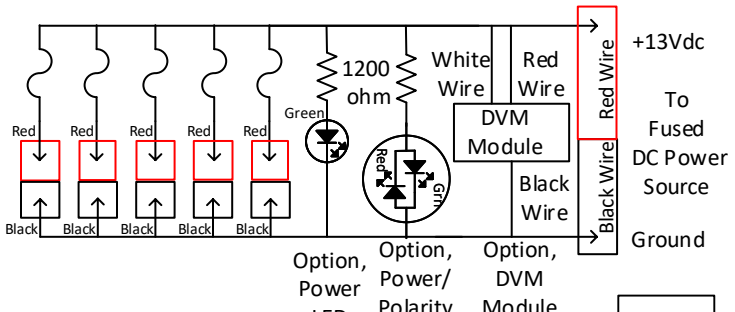


Print a copy of this drawing. Cut out and tape or paste to lid. Use as a template to cut out holes. Use center punch to mark starter holes. Open holes to size then work out holes to size with cutting tooling.



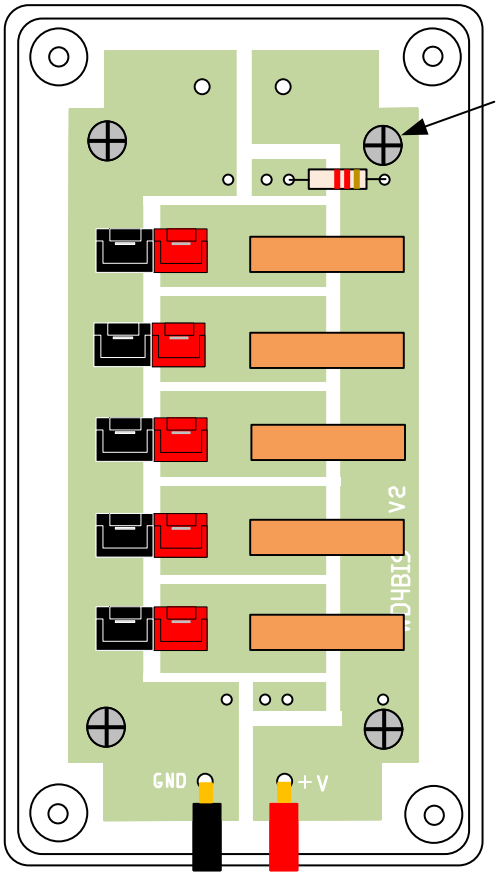


Prepare five Anderson Power Pole pairs with 1" of 12 or 14 AWG bare solid wire. (Cut from standard Romex.) Place in mounting holes on PWB. Align flat to spacing drill bits and solder.



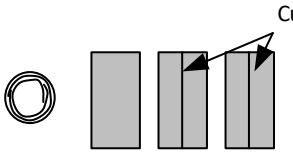
Date:	Revision/Addition/ Note	By:
Feb. 17, 2019	Initial Drawing	GSC
Feb. 17, 2019	My original version of the APP DC distributor was housed in a Radio Shack 270-1802 4"x2"x1"project enclosure. This is not available anymore. Going to rebuild the project in a Hammond 1591XXSSBK that is a little larger at 4.3"x2.4"x1.2" and available from many distributors for about $5.00. This version has mounting bosses.	GSC
Feb. 18, 2019	Mouser Part # 546-1591XXSSBK, have 2 on order.	GSC
Feb. 19, 2019	Adding option of using solder on terminals for the .25" faston terminals. Part # for terminals, Mouser Part # 571-1217080-1.	
Feb. 19, 2019	Adding option of holes on PCB at either end for an on board resistor and holes to a power LED. Use a standard LED for power pilot light or a Bi-Directional Red/Green LED for Power/Polarity check. Mouser Part# 604-WP483SRSGW. Long leg to ground.	GSC
Feb. 19, 2019	Added option of bayite DVM Module (Amazon, package of 5). Cutouts at either end of enclosure.	GSC
Feb. 20, 2019	Received Enclosure from Mouser. Comes with Lid screws only. A standard #4-40 screw will work for the mounting bosses, but pre-thread boss holes slowly by hand prior to mounting board to enclosure.	GSC
Feb. 23, 2019	Moved DVM Module cutouts 0.07".Removed DVM mounting holes. Use the lid mounting bosses and two #4x¼" Screws and two #4 flat washers with the DVM mounting ears in between the flat washers to mount DVM module to enclosure lid.	GSC
Feb. 24, 2019	Moved pass through hole to top of enclosure to allow for the spacers. Changed pass through hole to a pass through slot for ease of assembly.	GSC

Drawn By:	Gerald Crenshaw WD4BIS	Date:	Feb. 17, 2019	From the bench of: Amateur Radio Station WD4BIS
Designed By:	Gerald Crenshaw WD4BIS	Date:	Feb. 17, 2019	Page 1 of 4
Checked By:	Janet Crenshaw WB9ZPH	Date:	Feb. 17, 2019	Title: APP DC Box V2 Scale:

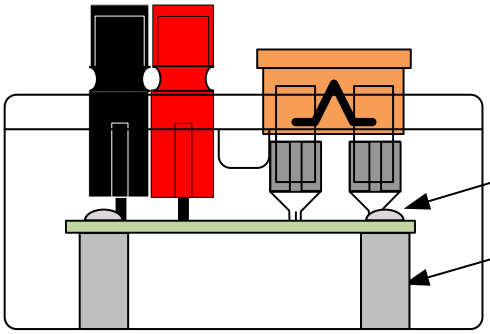


Parts List

QTY	Description
1	Hammond Enclosure 1591XXSSBK (Black)
1	PCB
5	Anderson Power Pole Pairs Red/ Black and contacts.
10	Blue Faston connectors or AMP/TE 1217080 Terminal
5	ATO Auto Fuse
4	½" Plastic or Nylon Spacer (Purchased or Locally Made)
4	4-40x ½" Screw
1'	14 or 12 AWG Solid Wire (Cut from Romex)
1	Option Green T1¾ LED
1	Option Red/Green T1¾ Bidirectional LED
1	Option 1200 ohm resistor 1/4W for LED
1	Option Bayite DVM Module
2	Option 4-40x¼" screw for mounting DVM Module
4	Option #4 flat washer for mounting DVM Module
1	Option JST XH Male connector for LED
1	Option JST Female Pigtail for LED
AR	Solder As Required.
AR	14 AWG or 12 AWG wire for Input As Required.



A spacer can be made from a plastic drinking straw, .25" in diameter. Cut three pieces 0.5" long. Split 2 pieces lengthways. Wrap up and slip inside uncut piece. Place over mounting boss. This grips the mounting boss well.

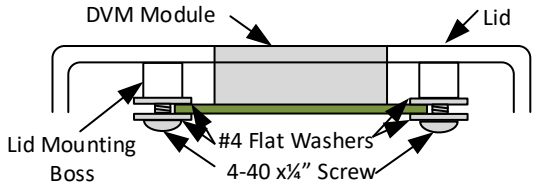


End of Box
Hammond 1591XXSSBK

#4-40x½" Screw, 4 Places

Spacer ½" long, on top of mounting bosses. 4 Places. If using a standard #4 or #6 x 1/2" plastic or nylon spacer, open center hole to fit over mounting boss. Start with a 13/64" or #6 drill.

DVM Module Mounting

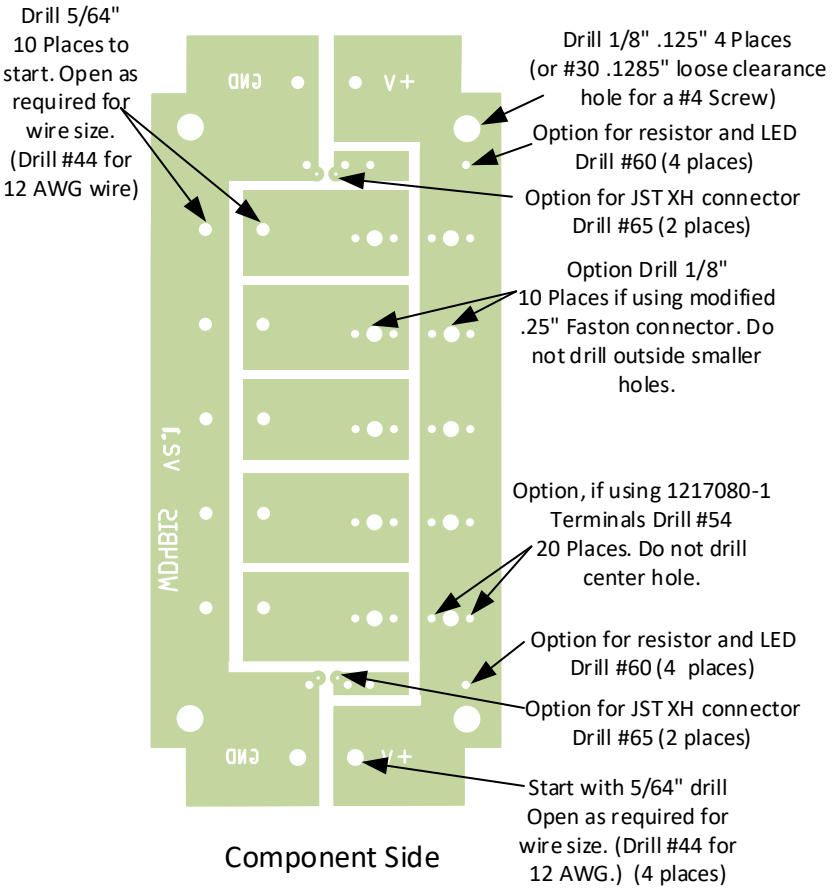


Date:	Revision/Addition/ Note	By:
Feb. 24, 2019	Initial Drawing	GSC
Feb. 24, 2019	Mounting of board into box. Pre thread the mounting bosses with a 4-40x ¼" screw by hand slowly.	GSC
Feb. 25, 2019	Added details on locally made spacers.	GSC
Mar. 1, 2019	Added parts list.	GSC
Mar. 1, 2019	Added note on using a standard nylon spacer and modifying to fit over mounting boss. (www.boltdepot.com Part# 13750)	GSC
Mar. 1, 2019	Added DVM Module mounting details.	GSC

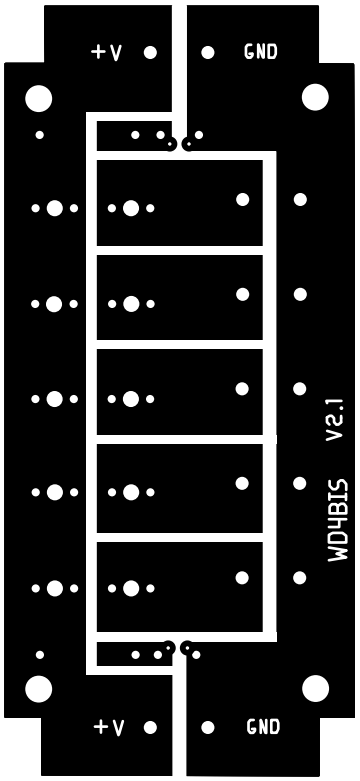
Drawn Text
ABCDEFGHIJKLMNOPQRSTUVWXYZ
0011223456789 IN OUT WD4BIS

Print Check .5"x.5"

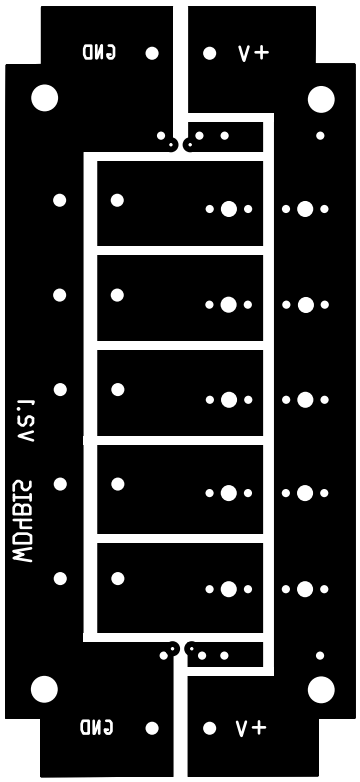
Drawn By:	Gerald Crenshaw WD4BIS	Date:	Feb. 24, 2019	From the bench of: Amateur Radio Station WD4BIS	Page 2 of 4
Designed By:	Gerald Crenshaw WD4BIS	Date:	Feb. 24, 2019	Title: APP DC Box V2. Mounting Details	Scale:
Checked By:	Janet Crenshaw WB9ZPH	Date:	Feb. 24, 2019		



Component Side



Copper Side



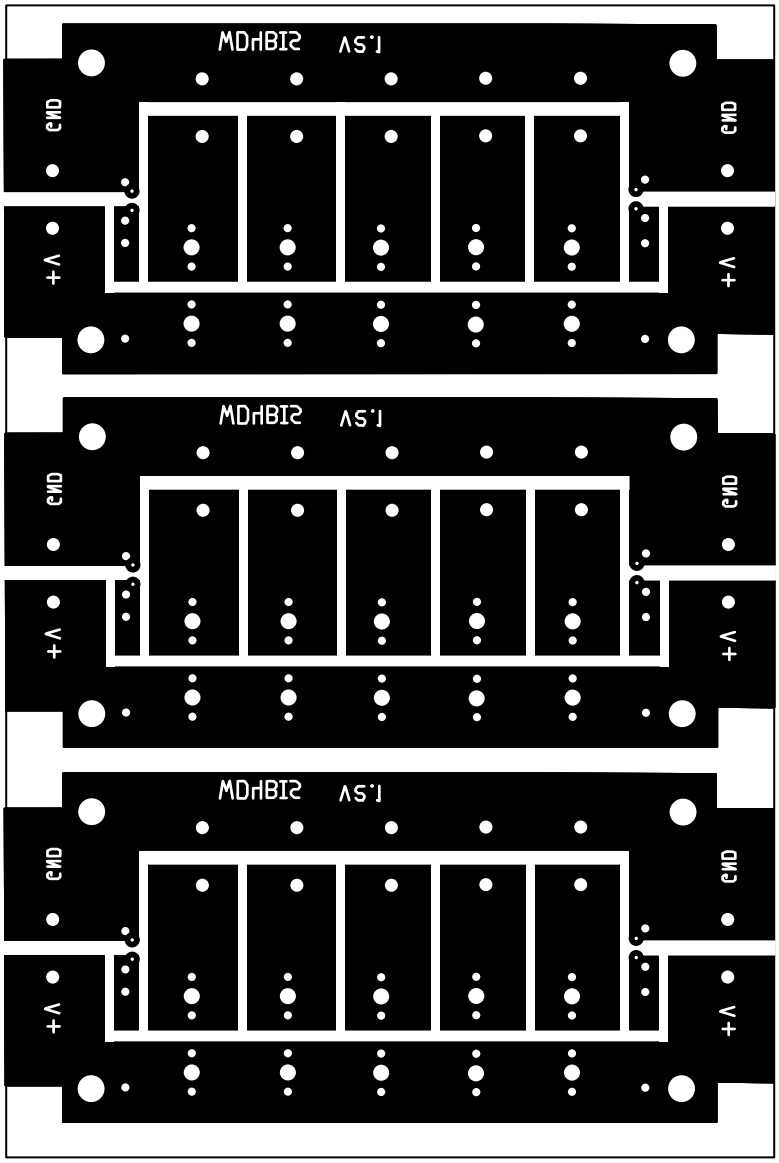
Mirror Image
(Flipped Horizontal)

Date:	Revision/Addition/ Note	By:
Feb. 19, 2019	Initial Drawing	GSC
Feb. 19, 2019	PCB drill schedule showing the various options.	GSC
Feb. 19, 2019	With the change to Windows 10, lost the ability to print mirror image. Visio will not flip text. Have to use drawn text.	
Feb. 19, 2019	Added drawn text. Grouped and flipped horizontal for a mirror image	GSC
Feb. 22, 2019	Added update to drill schedule for #44 drill for solid 12AWG Wire.	GSC
Feb. 24, 2019	Adjusted input output spacing to allow mounting of additional Power Pole at either end. Added +V and Gnd text to both ends. Centered some lines. Made enough small changes to change the version of the board to 2.1	GSC
Feb. 24, 2019	Barrel Diameter of the modified Blue Faston Terminal changes Vendor to Vendor. Start with 1/8" drill and open as required.	GSC
Feb. 24, 2019	Added artwork for a JST XH (.1" Spacing) connector for LED at both ends of PCB.	GSC

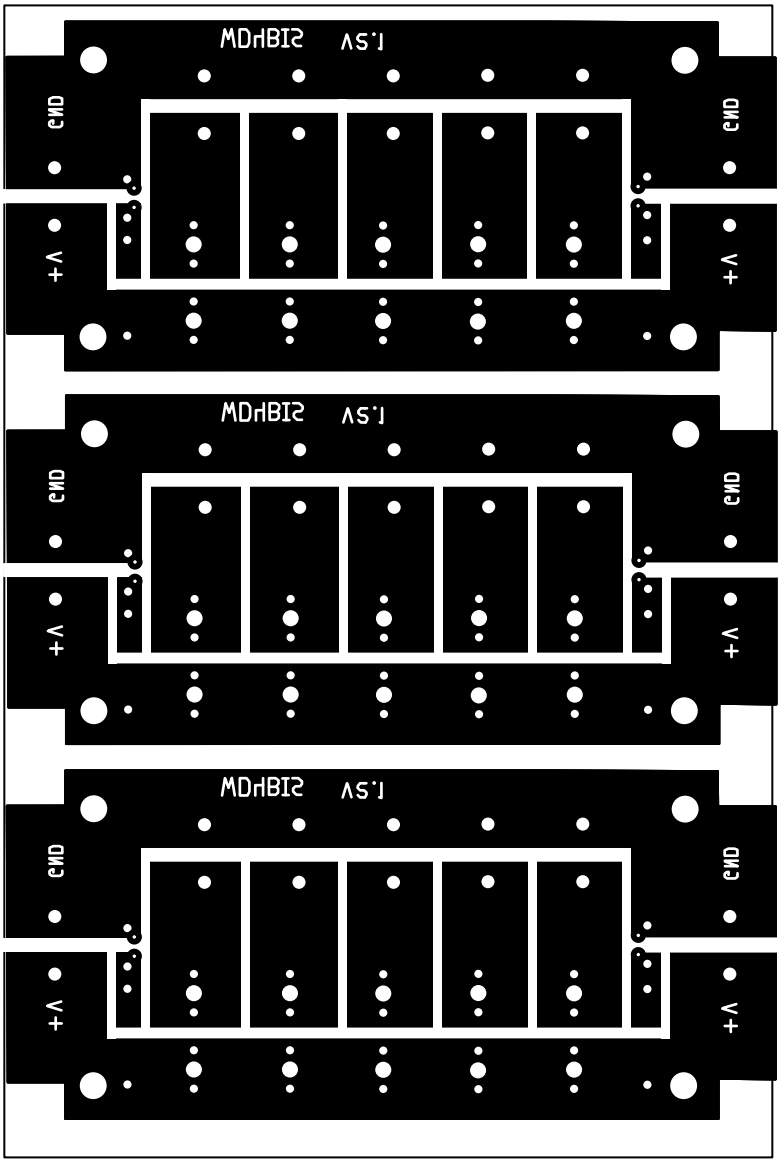
Drawn Text
ABCDEFGHIJKLMNOPQRSTUVWXYZ
0011223456789 IN OUT +WD4BIS

Print Check .5"x.5"

Drawn By:	Gerald Crenshaw WD4BIS	Date:	Feb. 17, 2019	From the bench of: Amateur Radio Station WD4BIS	Page 3 of 4
Designed By:	Gerald Crenshaw WD4BIS	Date:	Feb. 17, 2019	Title: APP DC Box V2. PCB & Drill Schedule	Scale:
Checked By:	Janet Crenshaw WB9ZPH	Date:	Feb. 17, 2019		



Mirror Image



Mirror Image

Date:	Revision/Addition/ Note	By:
Feb. 17, 2019	Initial Drawing	GSC
Feb. 20, 2019	The copper clad blanks I can buy now are 4"x6". Adjusted dimensions until I could get 3 of the boards on one 4"x6" blank.	GSC
Feb. 24, 2019	Replaced V2 with V2.1 boards.	GSC

Print to HP Laserjet P3005, Staples Color Laser Paper, SKU 633215
Paper/Quality Pro Res 1200 DPI
Heat press, 300 degrees F for 150 seconds. (2.5 min.)

Drawn Text
ABCDEFGHIJKLMNOPQRSTUVWXYZ
0011223456789 IN OUT WD4BIS

Print Check .5"x.5"

Drawn By:	Gerald Crenshaw WD4BIS	Date: Feb. 20, 2019	From the bench of: Amateur Radio Station WD4BIS
Designed By:	Gerald Crenshaw WD4BIS	Date: Feb. 20, 2019	Page 4 of 4
Checked By:	Janet Crenshaw WB9ZPH	Date: Feb. 20, 2019	Title: APP DC Box V2. PC Board Group and Dupe — Scale: