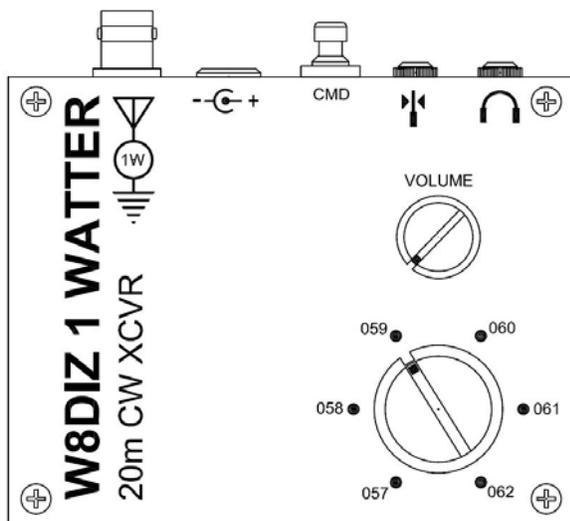


Fabricated PCB chassis for the W8DIZ 1 Watter Transceiver



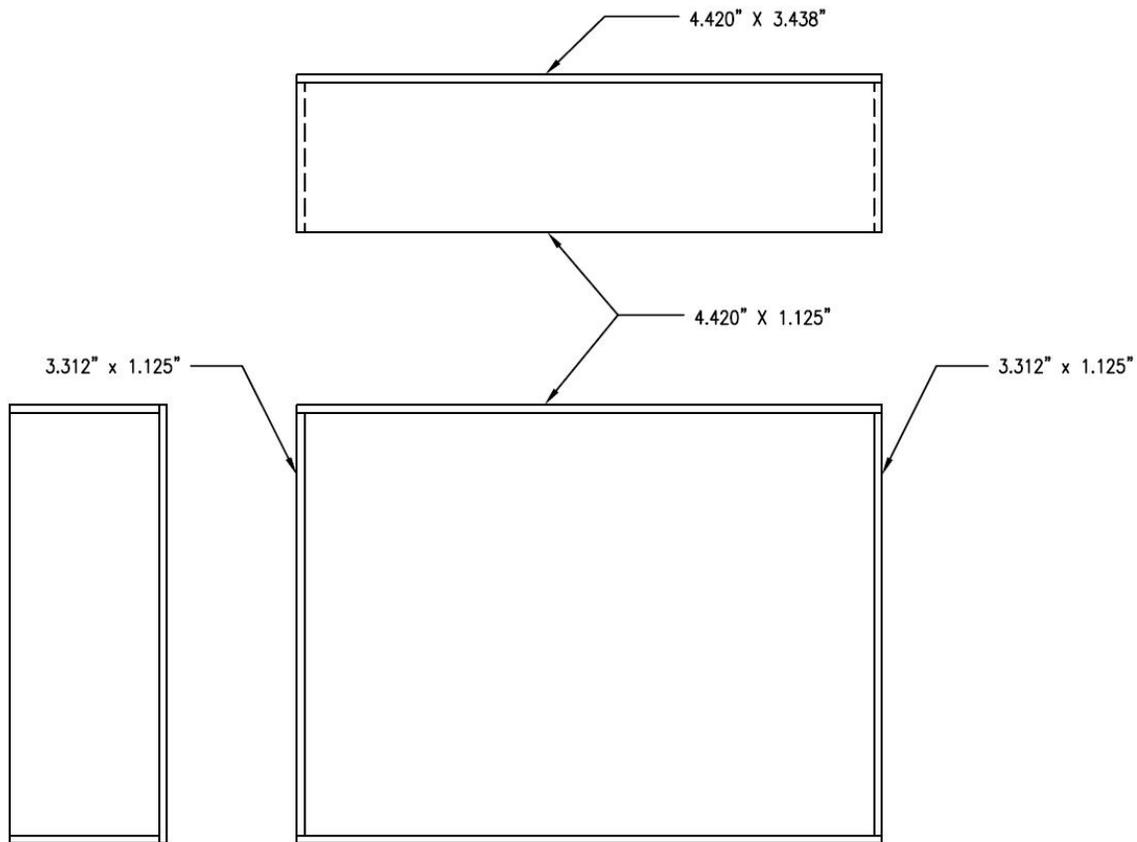
A practical chassis can be constructed for the W8DIZ 1 Watter fabricated from printed circuit board material using the commonest tools found in most garages. The construction details of preparing and fabricating any pcb case can be found on my website at http://www.qrpbuilder.com/downloads/pcb_chassis_a.pdf . The additional details particular to this chassis will be addressed here.

The chassis can be built in two versions. On the left is the transceiver with all the necessary I/O connectors, and the right has all the I/O, plus the additional capacity to install the Dan Tayloe (N7VE) SWR indicator available from www.qrpkits.com. Both cases are the same size, with only the hole locations modified to accept the additional swr assembly. I have detailed the additional connectors and chassis components not included in the transceiver kit. Should you choose to use other components, you may have to modify the described holes or locations to accommodate your particular components. You can build the case and then decide which option you want when you drill the rear panel holes.

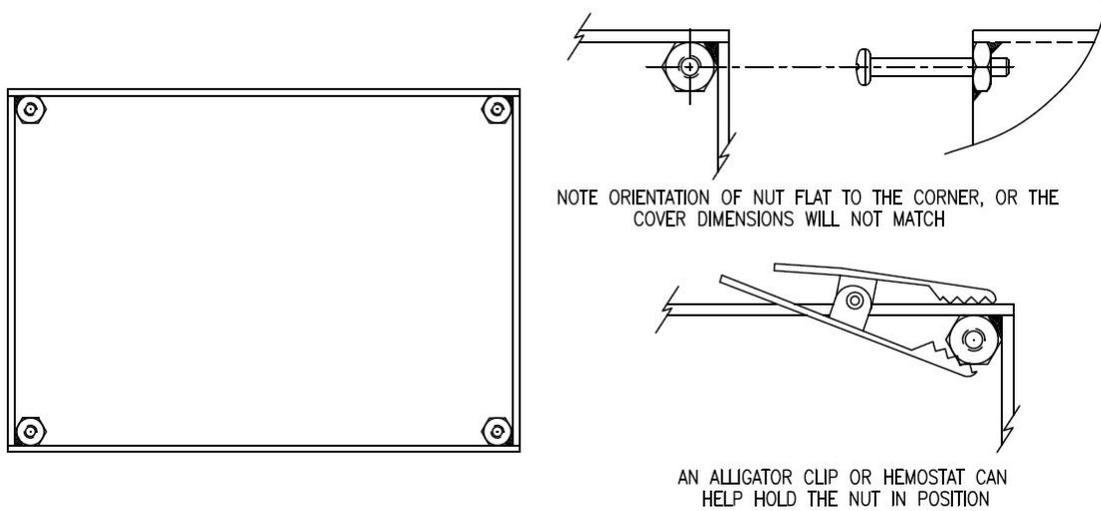
- 4 - 4-40 X 1/4L FH SS screw
- 4 - 4-40 X 1/2L FH SS screw
- 8 - 4-40 SS nut
- 4 - 4-40 brass nut
- 1 - 10K ohm Lin. taper potentiometer, Mouser # 31CN401-F
- 2 - 1/8" audio jack, Mouser # 161-3509-E
- 1 - Small knob, Mouser # 450-2034-GRX
- 1 - Medium knob, Mouser # 450-2036-GRX
- 1 - DC power jack, 2.1mm, Mouser # 163-1061-EX
- 4 - self adhesive rubber foot

Again, using http://www.qrpbuilder.com/downloads/pcb_chassis_a.pdf as a guide finish the copper clad pcb material to the following sizes:

- 2 @ - 4.420" X 3.438"
- 2 @ - 3.312" X 1.125"
- 2 @ - 4.420" X 1.125"

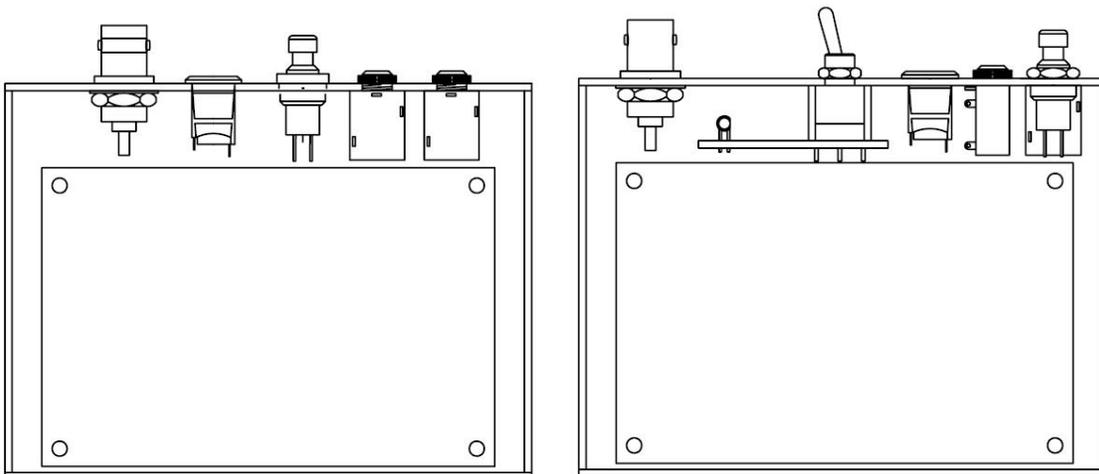


Fabricate the bottom of the chassis. Note the corner orientation when soldering the pieces together.



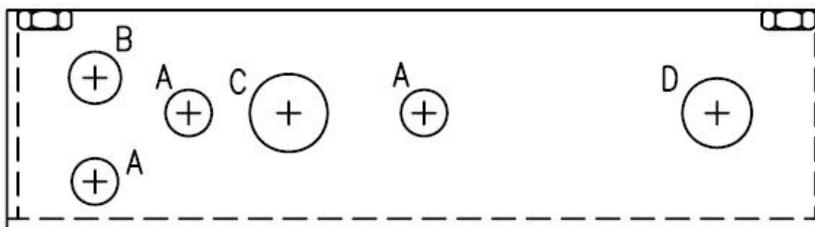
Four brass nuts in the top corners will be used to secure the top cover. Be sure to rough up the flats on the brass nuts so they will solder easily. Solder the four nuts flush, or just below the top surface. You can use a longer 4-40 screw threaded into the nut to check that it is square to the top surface of the chassis.

Before you drill the case you must decide which option you wish to use, either the SWR option or the plain. Below are the two connector layouts.



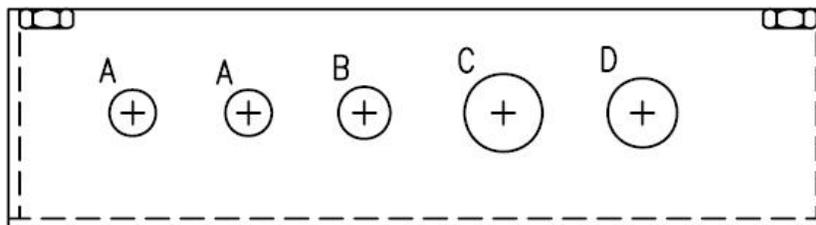
Below are the hole patterns for the two different options. You can either cutout and transfer the hole locations using these templates, or use the dimensioned drawings at the end of the document.

If you use the templates, scale your printing to match the 4.0" dimension shown to get the correct spacing.

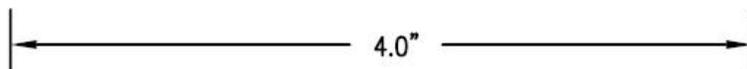


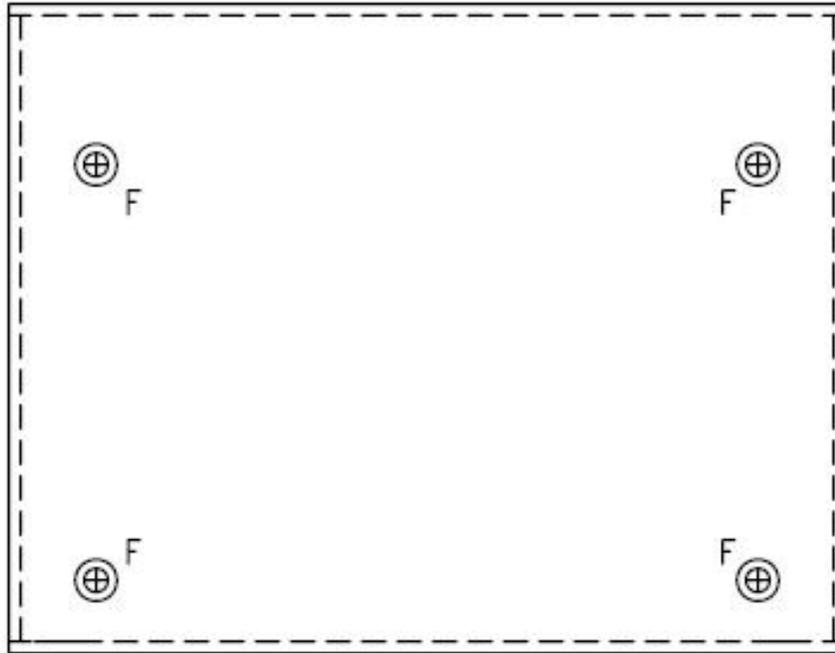
SWR BACK PANEL

- A - ϕ .250
- B - ϕ .281
- C - ϕ .421
- D - ϕ .375

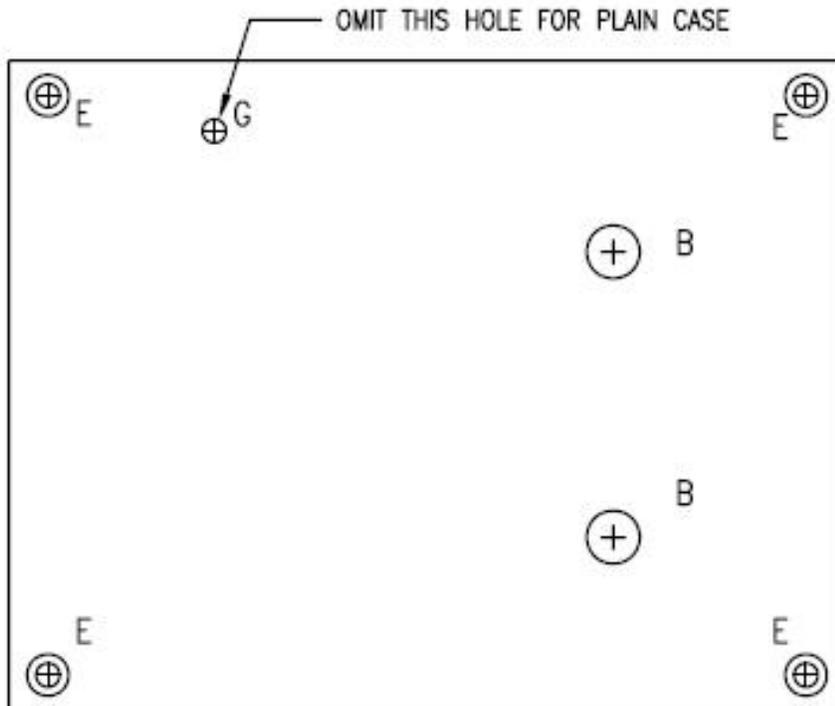


PLAIN BACK PANEL



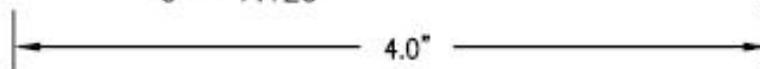


BASE - TURN OVER AND DRILL FROM BOTTOM
 F - ϕ .125, CSK ϕ .220 X 82'

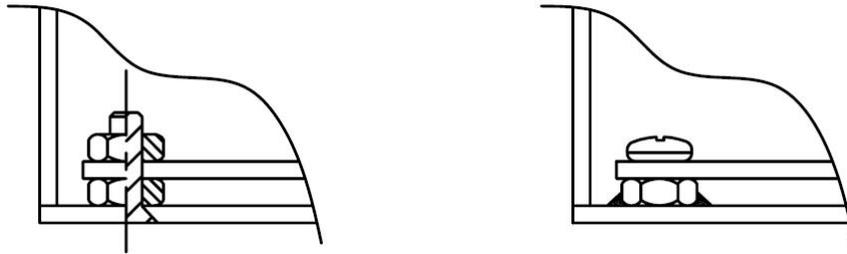


COVER

B - ϕ .281
 E - ϕ .125, CSK ϕ .220 X 82'
 G - ϕ .125

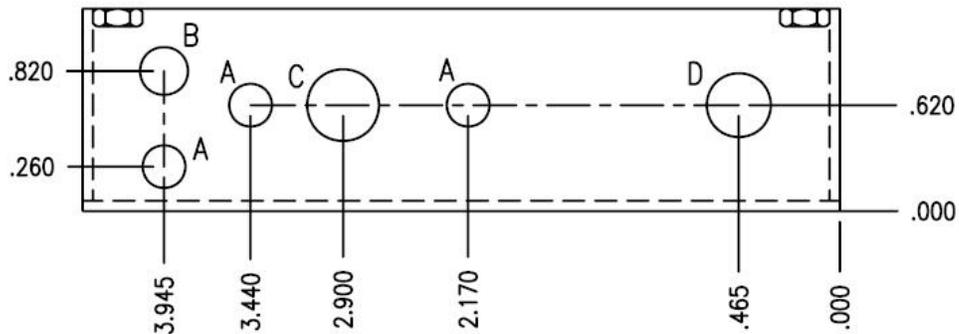


Below, I am showing two options for mounting the transceiver pcb. One option is soldering brass nuts to the bottom of the case on the inside and using the nuts themselves as spacers for the bottom of the pcb, and securing the transceiver board with four short 4-40 screws. The other option is using 1/2" long flathead screws from the outside, secured with a nut to the inside of the case, then the transceiver pcb, then a nut on top. Your choice.



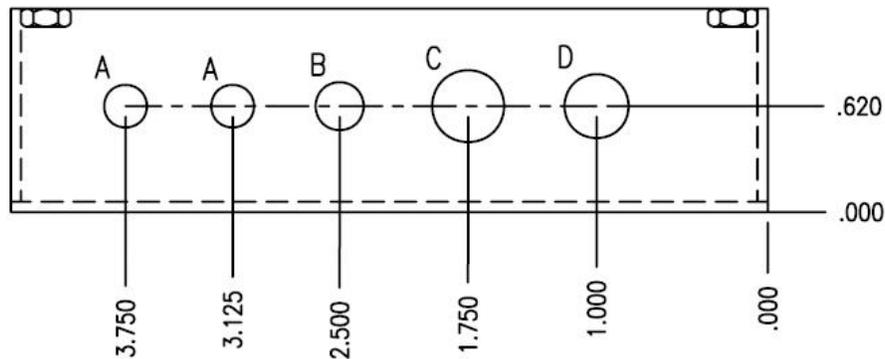
Either drill and countersink ($\varnothing.125$, csk $\varnothing.220 \times 82^\circ$) the holes, or use these locations to solder the brass nuts. I found the screw and two nuts the easiest.

Reference drawings:



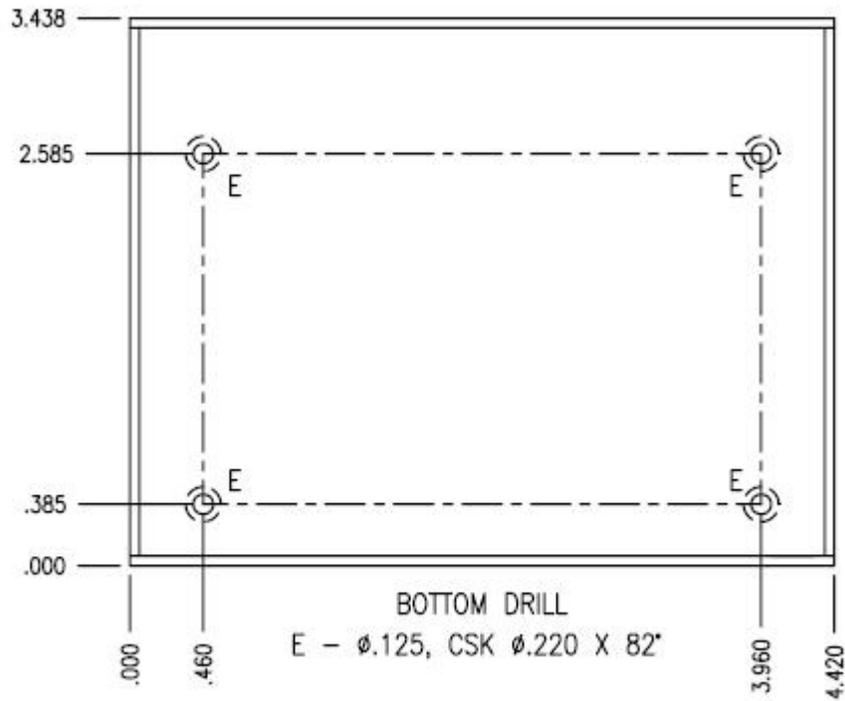
SWR BACK PANEL

- A - $\varnothing.250$
- B - $\varnothing.281$
- C - $\varnothing.421$
- D - $\varnothing.375$



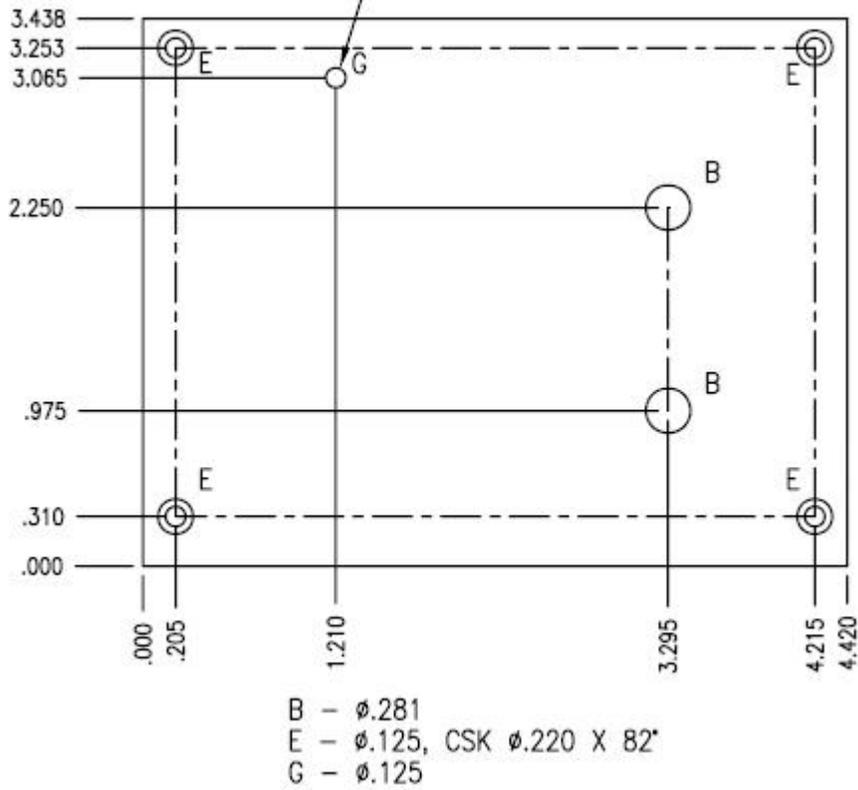
PLAIN BACK PANEL

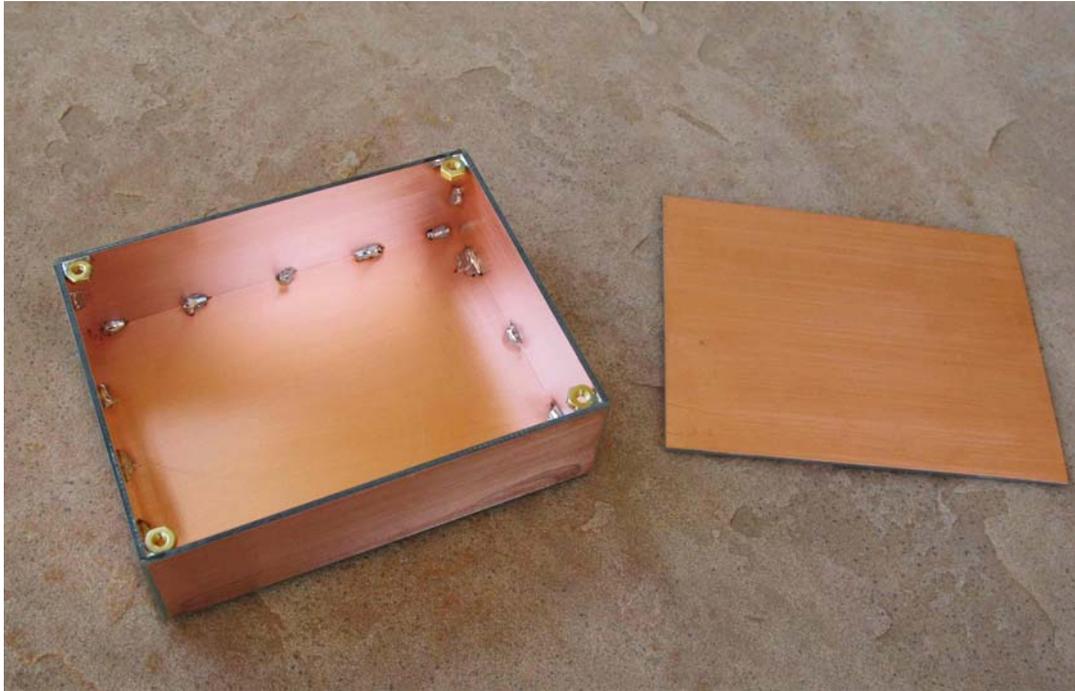
REAR



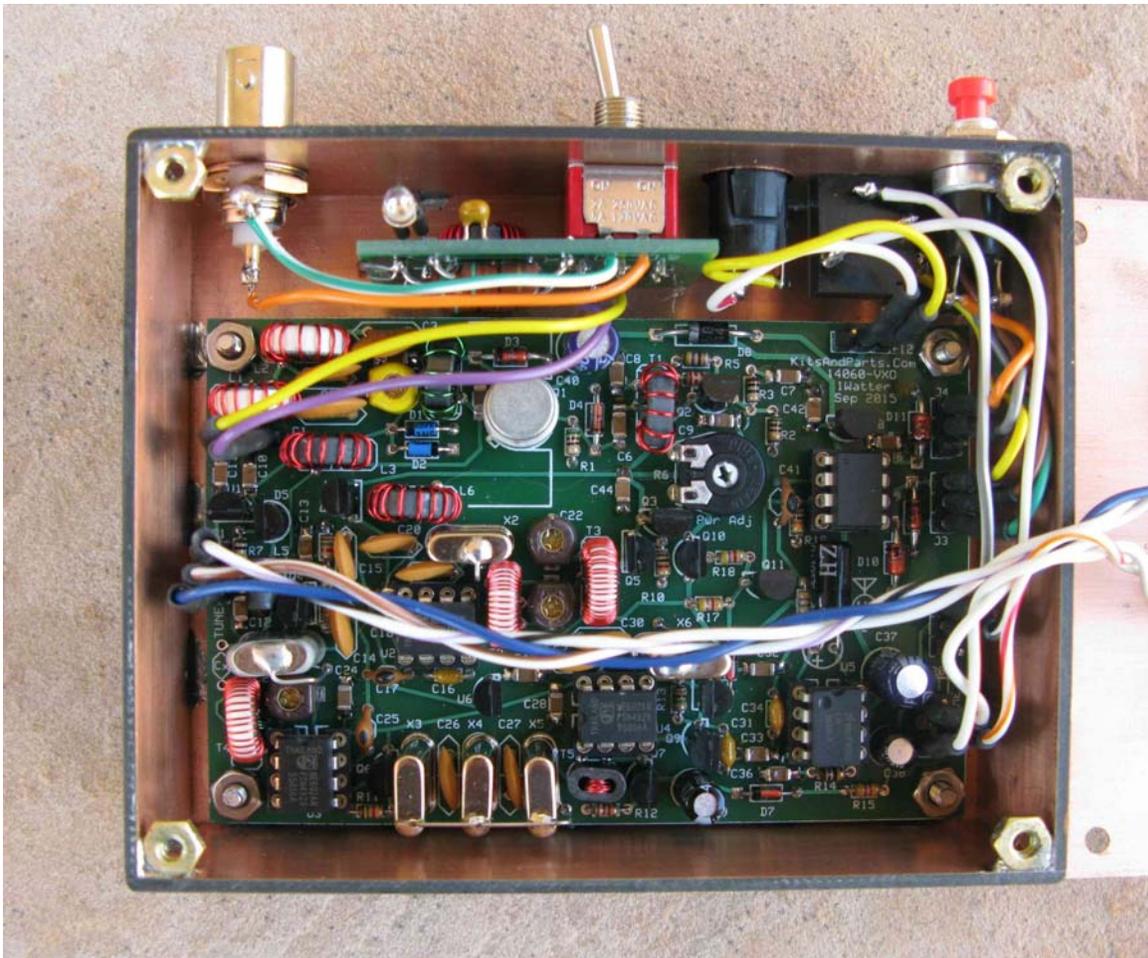
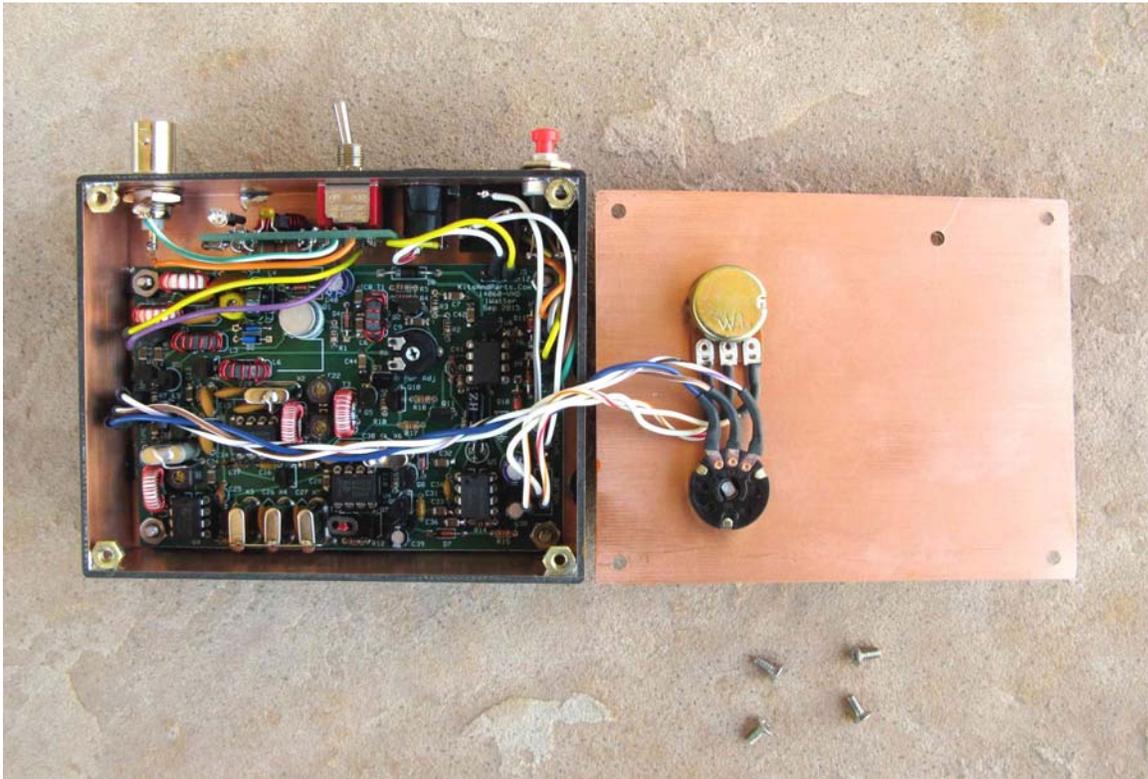
COVER

OMIT THIS HOLE FOR PLAIN CASE

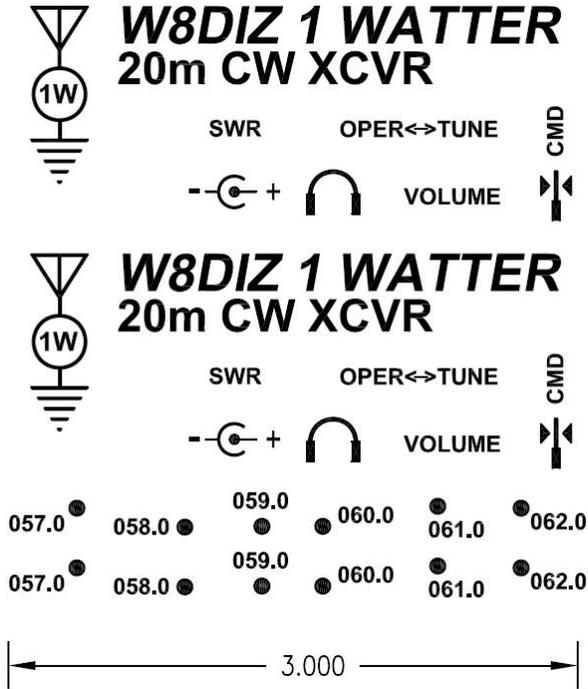








Decals



Print out the above onto laser decal paper. I use Papilio Item# PAS48511G. Practice on plain paper to achieve the correct printer scaling.

Thoroughly clean the surface of the panel to remove any oils or contamination.

The decals are applied the same as model decals. Cut around each group of text you wish to apply. It doesn't have to be perfect as the background film is transparent. Apply the decals before you mount anything to the chassis

Trim around the decal. After trimming, place the decal in a bowl of lukewarm water, with a small drop of dish soap to reduce the surface tension, for 10-15 seconds. Using tweezers, handle carefully to avoid tearing. Start to slide the decal off to the side of the backing paper, and place the unsupported edge of the decal close to the final location. Hold the edge of the decal against the panel, with your finger, and slide the paper out from under the decal. You can slide the decal around to the right position, as it will float slightly on the film of water. Use a knife point or something sharp to do this. When in position, hold the edge of the decal with your finger and gently squeegee excess water out from under the decal with a tissue or paper towel. Work from the center, to both sides. Remove any bubbles by blotting or wiping gently to the sides. Do this for each decal, and take your time. Allow to set overnight, or speed drying by placing near a fan for a few of hours. When dry, spray two **light** coats of matte finish, Krylon, clear to seal and protect the decals, and allow the spray to dry in between coats.



Here's a cheat sheet you can print for the keyer commands, and attach to the bottom with two sided tape.

