

A RADIO GO BOX
OR PORTABLE EMERGENCY COMMUNICATIONS
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I have seen lists and stories of what a good amateur radio operator should have in his go kit go. These lists make suggestions as what type of radios to put in your go kit, of course everyone knows with each radio there are cables and other supporting things to pack too. Now when you get to where you are going everything needs to be set up and connected with all those cables that you packed. This setup takes time and when you break it all down you have to pack it all up and there is always that feeling in the back of your mind that you forgot to pack that one cable that makes all your equipment work. However what if there was a way to build a portable ham shack. This shack once assembled would have all the cables and radios and tnc's mounted in it, already wired and ready to go. This is what led me to build my radio go box



(figure 1).

What is in the box?

- 1) Yaesu FT-857D.
- 2) Kenwood TM-D700.
- 3) Kantronics KAM+ tnc.
- 4) Kantronics KPC3+.
- 5) Alinco DM-330MV.
- 6) LDG Electronics Z-100 auto tuner.
- 7) 2 12-volt muffin fans for cooling.
- 8) West Mountain 4008 rig runner.
- 9) All the interconnection cables and mics.
- 10) Computer cables to control everything.

As you can see from the list this radio go box is a ham shack in a box. Yes there is other things that you could put in yours or things I could have done differently in mine. What I am saying is this is not the end all of radio go boxes but it is a good point for anyone to get an idea where to start. So with that being said here is how I built mine.

I started with a gator 6unit shallow rack mount box.

(<http://www.gatorcases.com/products/modeldetail.aspx?LID=1&PID=18&MID=11>) and added to it three rack mount shelves. I bought some aluminum angle for making brackets for mounting all that equipment in the box.

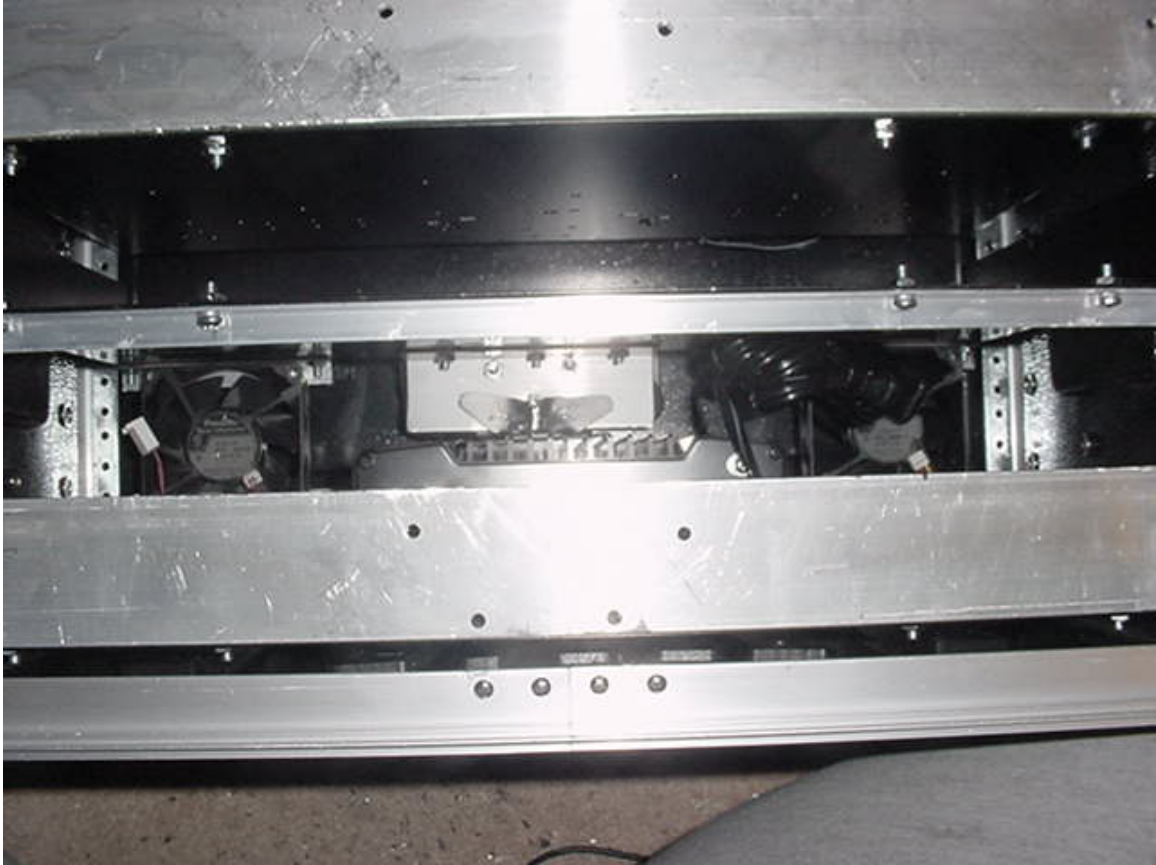
I took the bottom off the power supply. Then using this bottom as a template, I centered the bottom plate in the middle of one of the rack shelves and drilled 4 holes for sheet metal screws to go through the shelf through the rubber feet and into the metal base plate that mounts on the bottom of the power supply. On the same shelf I cut two pieces of 1.5"x 2"x5" aluminum angle and mounted them on each side of the power supply one piece is for external Anderson power pole connectors and the other is for uhf bulkhead connectors for the antennas.

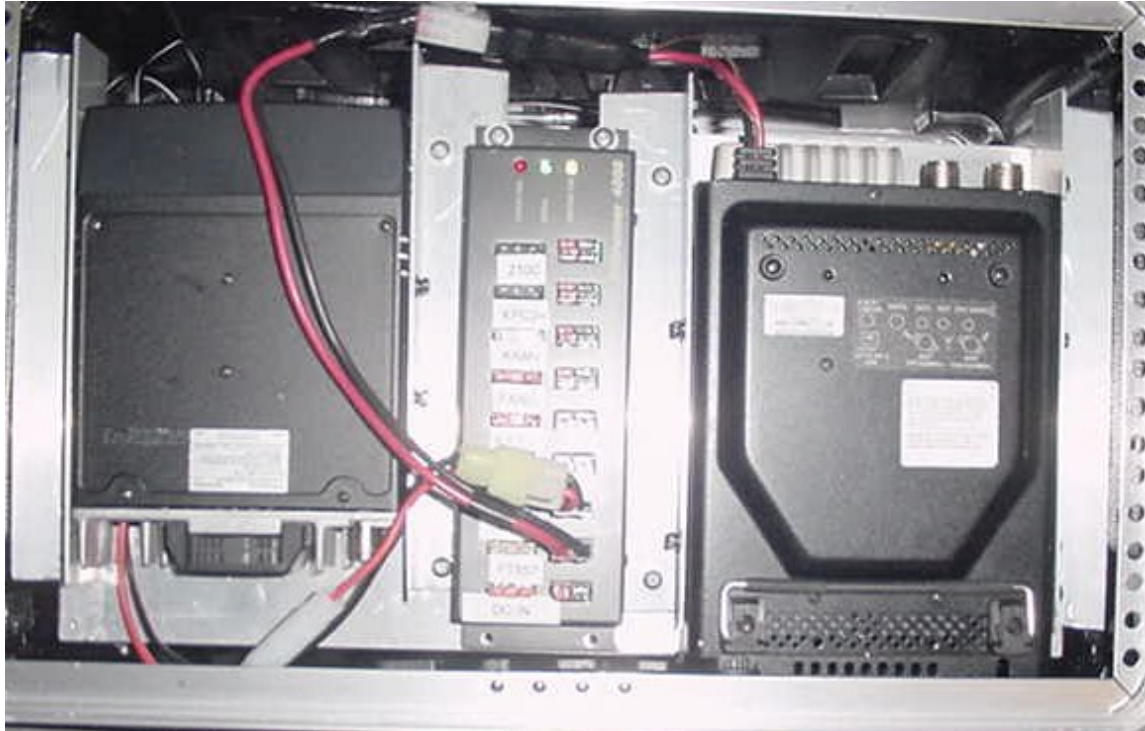


(Figure 2)

The next shelf up has mounting points for two fans the TM-D700 display and this shelf will have the antenna tuner and the KPC3+ mounted on it. I use two pieces of 1/2" aluminum angle 4.5" long, one for each fan. I also used a piece of 2"x 1.5" aluminum angle for the TM-D700 display. These three pieces of angles are mounted to the bottom of the shelf one fan on either side of the display. On the top of the shelf I used Velcro to mount the tuner and the tnc and to add security I used nylon wire ties to anchor the tuner and tnc to the shelf.

The next shelf up I centered the KAM+ on the shelf and I used Velcro and wire ties to anchor the tnc to this shelf. On the back of this shelf and the back of the power supply shelf I mounted an aluminum angle 2"x 1.5" with the 2" standing up. These angles are going to be used to mount the radio bodies and the rig runner distribution block.





(figure 3)

I mounted the bodies of the radios so that the fans in the radios would be pulling air from the bottom of the box blowing it up through the radio bodies.

The final fabrication is the speaker and FT-857 display-mounting bracket. I used two pieces of 2"x1.5" aluminum angle and one piece of 1.5"x 1.5"x 9". The 857 display needs 6" of space side to side but it needs more depth then the front lid of the gator box has. This means that the mounting bracket has to be recessed and the speakers being larger than a rack shelf unit need to project out into the lid of the gator box. So I took the two pieces of the 2" angle I cut and drilled holes in the one end to fit the rack mount screw spacing. I took the 1.2" angle and used a half inch spacer clamped it to the 2" angle so that I could drill three holes for machine screws to hold it all together see photo



(figure 4)

With this top piece made and the speakers and 857 display mounted I was ready for paint.

I use black paint and painted all the aluminum so it would not be shiny then assembled the hole radio go box and wired it up making sure to tie the wires together using wire ties. I secured the harness to holes drilled in the aluminum and shelves thus making sure all connections where made and all the wires where in place before I leave to go any where with the box.

You should be able to see form the final photos





(figure 5,6) how the finished unit looks when the front and back lids are removed of course in deployment only the front cover needs to be removed as all the connections are made there. The box can run of generator or battery just by plugging it in.

I have actual tested and used mine when I went on a hunting trip where I used the radio go box to make phone contacts and used a tnc to beacon out my position on APRS and I used the kam+ tnc winlink to send email out to my friends. I hope this radio go box that I have built gives you ideas on how to put a radio go box together.

I also need to mention at this point the people who helped me figure out how to put this all together. First there is Greg Tillman, N4VAD he gave me the beginning idea Second Ron Waters, KI4BMK for all his technical advice in how to fabricate the parts for the box. Remember amateur radio is only a hobby and should be fun so get out there and have fun.