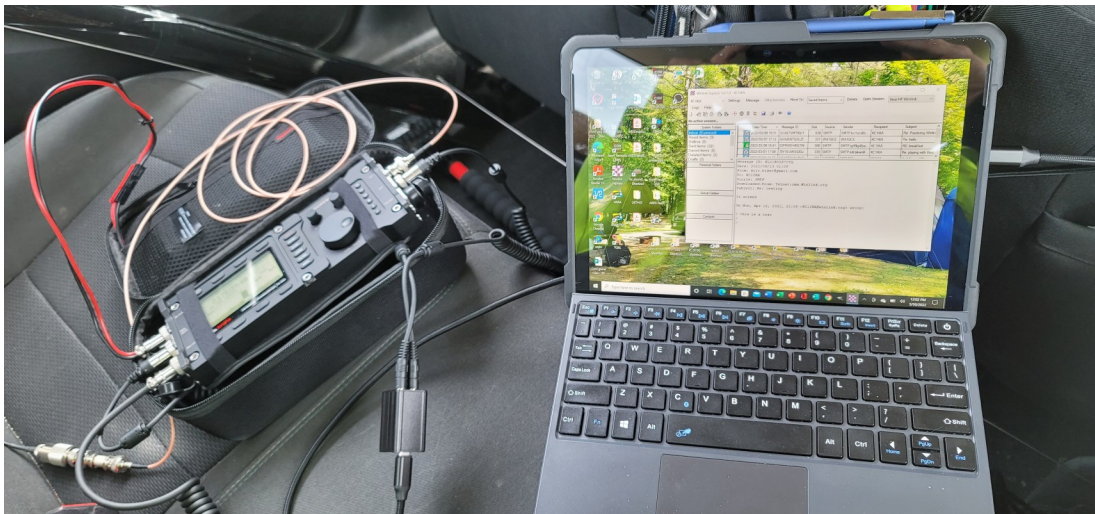


HCRA Show and Tell Club Meeting
April 1, 2022, 19:00
KC1IKA, Smitty
HF Winlink Portable Station



What I wanted to Accomplish

I am getting more involved in digital modes of communication. As such, I would like a quick and easy station I can set up at lunch and still have time to work it. In the past I would put up three guyed poles, stretch a dipole between them, tune the dipole because I am running QRP, then operate. It was taking about twenty minutes to set up, ten minutes to take down, so I didn't have too much time to experiment at lunch.

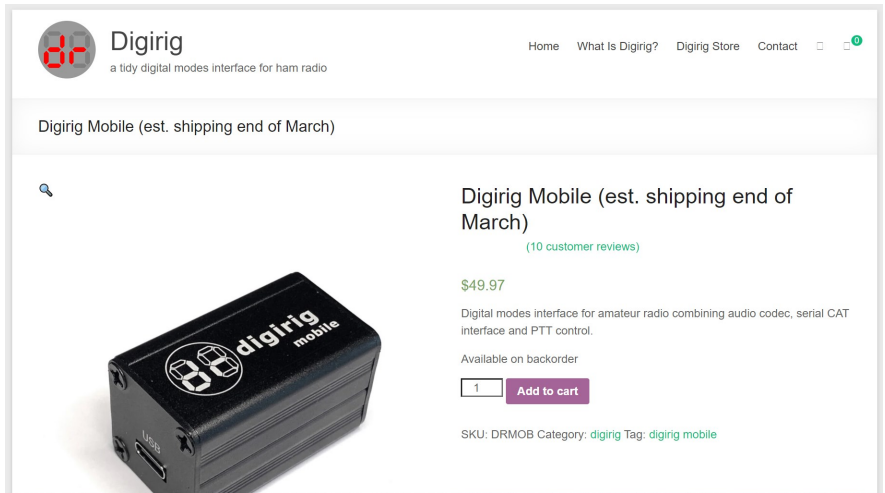
What I came up with is a lot easier and quicker to set up and take down. Now I can be on the air in about five minutes and the same to take it all down.

The Discovery Lab599 is a great radio for this. Easy to hook up, low power consumption, and great receive. To the radio I added a LiFePo4 battery, a Surface Go tablet, a very small interface to my tablet, a quick and easy antenna setup, and a case to hold all but the antenna.

The Discovery Lab599 is a great QRP radio. I am able to do Winlink at over 1,600 kilometers and SSB voice to at least Kentucky. I've been mostly doing the digital modes so I don't have a lot of data on SSB. It is also weather resistant and sips power, 1/10 amp on receive and up to 2 amps on transmit.



Discovery Lab599 in portable case



Brand: Bestico ★★★★★ 110
Bestico Carrying Case for Nintendo Switch and Switch OLED Model, Protective Hard Shell Portable Travel Case Pouch for Nintendo Switch Console, AC Adapter, Joy-con Grip, Joy-con Strap and 10 Game Cards
Amazon's Choice for "old switch carry case"



\$16⁸⁹
prime
& FREE Returns

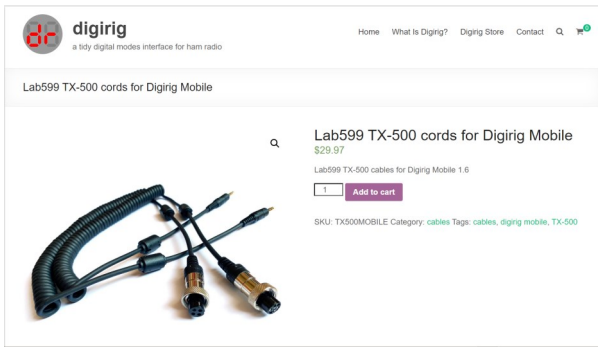
Visit the Talentcell Store
TalentCell 12V LiFePO4 Battery Pack LF4106, 2000 Cycles Rechargeable 12.8V 6Ah 76.8Wh Lithium Iron Phosphate Battery with DC 12/9/6 Volt and 5V USB Output for LED Strip, CCTV Camera, Mobile and More



\$57⁹⁹
prime
& FREE Returns



Digirig and cables from Digirig.net for Lab599



Also needed for Winlink

USB cable to connect to tablet or computer, at least one end USB-C

Antenna and coax for the band you intend to use

Coax cable with BNC to match Lab599

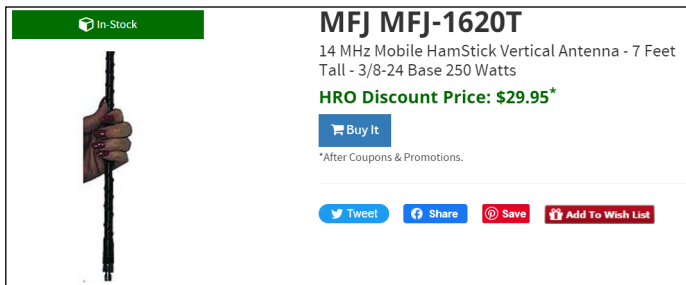
If you are just doing voice you don't need the Digirig or tablet, just the radio, battery, antenna, and coax

My Antenna Choice

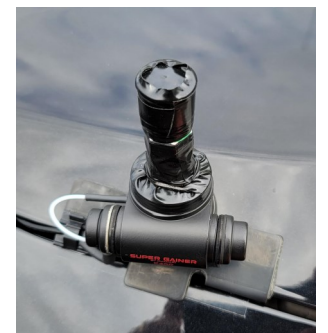
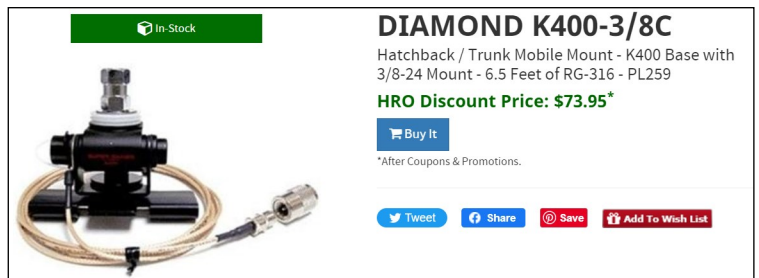
The primary factors I considered for antennas to Winlink were:

- ◆ Quick to set up
- ◆ Tuned for Digital end of the bands so I don't require a tuner and I get maximum out for QRP rig
- ◆ Easy to swap bands

What I came up with was a trunk lid mount and an antenna for each band. I called the manufacturer and had them sell me extra whips so I could set up antennas for the digital end and the voice end of each band. Now I can have my antenna up and connected to the radio in a couple of minutes. I can also swap bands or voice and digital in a minute or two. HRO in Salem, NH and MFJ tech support were a big help in getting this done. I purchased 80, 40, 20, 10, and 6 meter antennas and three extra whips. They are all labeled for band and mode, voice or digital, and store in one of the shipping tubes they came in. I made a cap for the tube and everything is wrapped in black packing tape to blend in to the floor of my passenger compartment with its black carpet.

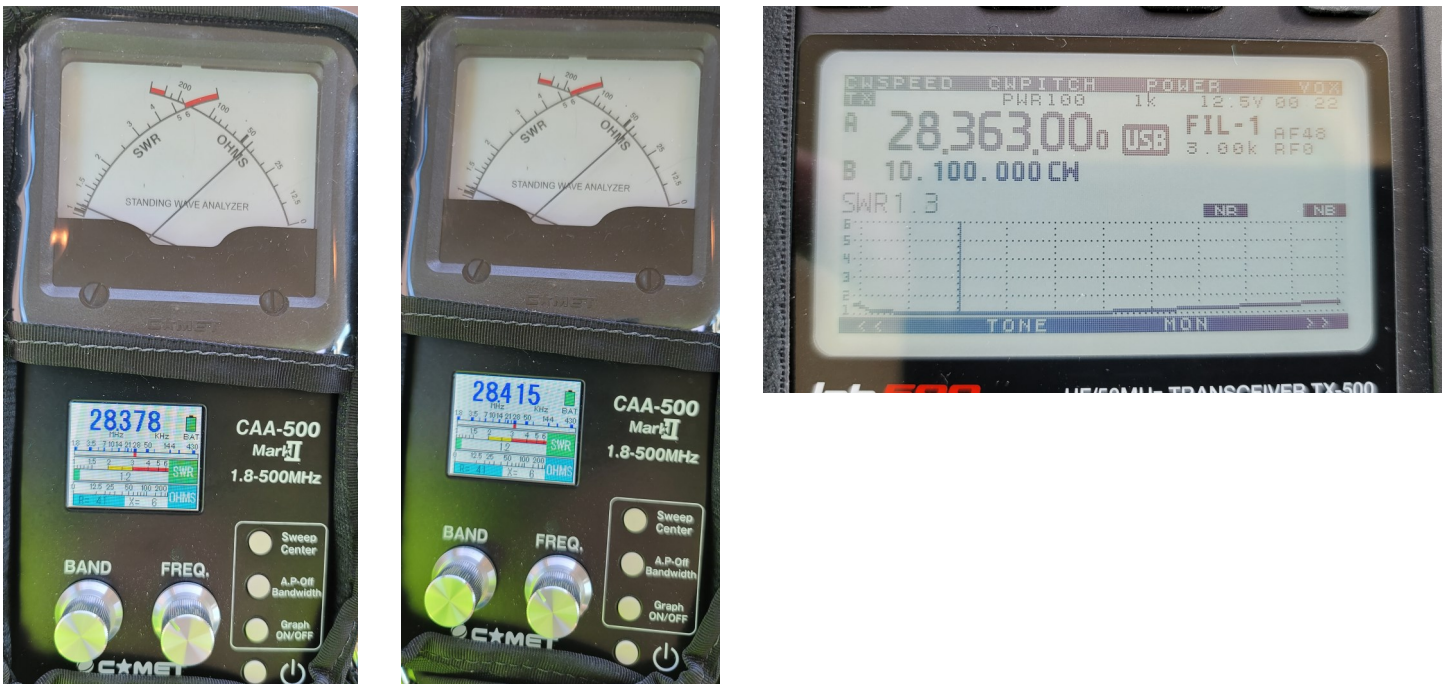


Rain cap made from 3/8-24 bolt epoxied into plastic cap. I wrapped shiny and colored bits with black PVC tape to make the mount less obvious.



Antenna performance

I adjusted each antenna for either the low or the high end of the band. The 10m antenna was good across the whole band as you can see below. The Lab599 will display a SWR graph for the whole band with a vertical line at the point you are tuned to. The two frequencies on the meter are for the Monday HCRA net on 28.375 and the Thursday POTA net on 28.413. I should be able to get out with these readings and am looking forward to trying it out once I get caught up with other things.



Results on 20m

Lab599 with tuned vertical antenna on trunk lid at 10w, 14.109Mh, AK4ZX Winlink HF Gateway in Chattanooga, TN, 1,327 km at 370 BPM (bits per minute), successful session. It took about five minutes to set up and get a connection.

