

Remote Contesting

This column marks a full year of “Remote Contesting.” I’m going to take a break from the column, so I leave you with an introduction to using a Raspberry Pi computer to control your remote station, and a few guesses on the future of remote contesting.

No perfect, one-size-fits-all solution to remote operating exists. Approaches vary with desired operating, equipment, software, and the internet characteristics of the station’s and operator’s locations. Some well-proven hardware solutions, such as **RemoteRig**, are out there as are **software solutions**. Commercial operations, such as RemoteHamRadio.com, and homebrew projects (“DIY Remote Radio Now,” *QST* April 2017), as well as PC, Mac, tablet, and Smartphone solutions are available.

Setting up remote control of a radio alone is relatively easy. Much of the effort in establishing remote control of a station involves the control of “everything else,”— antenna switching, power switching, and rotator. Controlling these often requires remotely operated relays and switches.

Enter the Raspberry Pi. Used widely in “Maker” projects, it can control serial ports, audio, and various relays, can be programmed by the average ham, and can connect to the internet for remote

control via a web browser. A useful system can cost less than \$100, and a full-blown remote-control system with lots of interfacing and capability will cost less than \$300.

Over the years, several Raspberry Pi remote control projects have been developed by hams. Andreas, N6NU, developed a remote station interface in the *Node-RED* programming tool for the Raspberry Pi processor (see Figure 1). Using the same tools, Michael, VA3MW, developed a different interface for his remote station needs (see Figure 2). Each was able to customize the control panel to their needs using freely available tools for the Raspberry Pi.

If you want some help in applying a Raspberry Pi approach to your remote station needs, you’ll be pleased to know that Marcus, AK7MG, started RemoteTX.net to assemble shopping lists of all the parts needed, developed “Quick Start” guides for common radios, and provides a web service to help connect the operator to the remote station. Much can be learned from his “Resources” tab.

Also for the Raspberry Pi this year is the entry of MFJ into the remote control market, with its RigPi Station Server (a description is on the MFJ-1234 product webpage,

and more information is available at www.rigpi.net). RigPi will bring station control and remote operation to a large audience willing to do a little tinkering. I predict the number of remote operators using RigPi will grow rapidly, and this technology will be the basis for a lot of new developments.

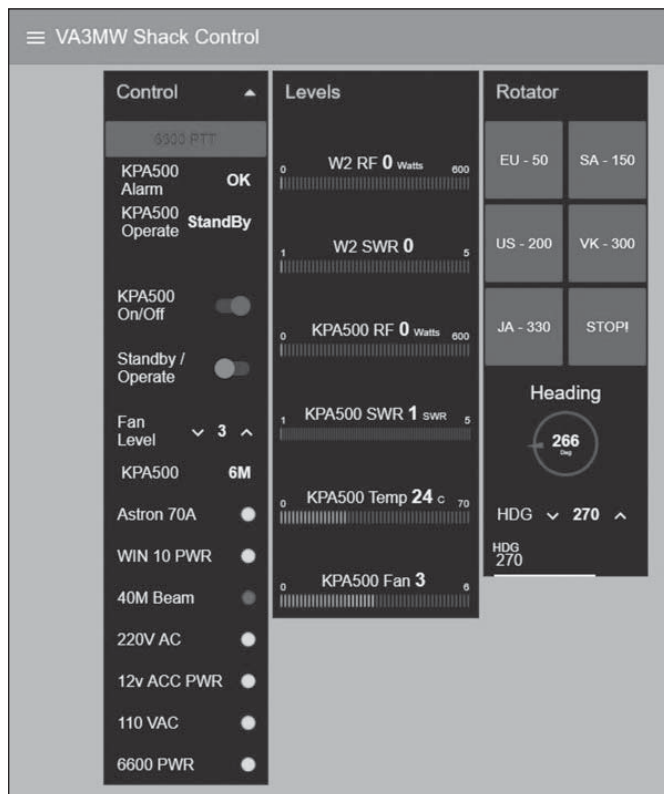
Some Thoughts on the future of Remote Contesting

We’ve already seen major contests won by operators using remotely operated super-stations. I expect more super-stations to come online, and ambitious contenders will be lining up to use them. More DX locations will be operated remotely, to reduce DXpedition time and expense. Of greater impact, though, will be the increasing number of middle-tier and even pipsqueak remote stations. These allow contest participation by the newcomer, the HOA-bound, or the traveling amateur. Once they try it, contesting has a way of grabbing some hams, and they will remain contesters for life, as long as they have access to a station, be it local or remote.

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N6NU’s “Shack Remote” interface was developed in *Node-RED* for the Raspberry Pi. [Andreas Junge, N6NU, photo]



The VA3MW “Shack Control” interface used the same tools, but provides different controls. [Michael Walker, VA3MW, photo]

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Many middle-tier remote stations will not be commercial operations, but will be typical ham stations enhanced with remote ability.

Virtually all new ham transceivers, and many new ham radio hardware products (tuners, amplifiers, antenna switches) and software products (loggers, rig control programs, digital mode software) are being offered with remote capability, or at least some type of pathway to remote operation. This puts remote operation within the grasp of more amateur stations, and contesters will be in the forefront of assembling reliable, competitive remote operations.

But, it is not just the equipment and software that are adopting remote operation. A change has occurred in the mindset of average amateurs, DXers, and contesters, who see the advantages of remote operation and are applying it to their passion. The average amateur can use remote access to check into a favorite net, the DXer can work DX even while away from the home shack, and the contestester can operate in more weekday and weekend events.

The one thing I do *not* see changing is the involvement of the operator. They prepare for the contest, deal with the propagation, QRM, and yes, even equipment failures, while trying to have fun and achieve a good score. Automated “robots” may appear in small numbers on the bands, but what keeps us coming back to contest operating is the personal satisfaction of a contact, the thrill of a multiplier, the recognition of the call signs of our friends and adversaries. As remote operators, we may no longer be directly in front of the radio, but the thrill of competition and achievement will remain. See you in the contest!