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Remote Contesting

Location, location, location! For successful remote contesting, a good solution will match the characteristics of your station site and your operator site. Your station site is the location of the transmitter and antennas, and might be:

1. Your shack, where you normally chase DX and contest, which you want to be able to use while you're away from home for the contest weekend.

2. A remote field or hilltop, out of town and away from the noise, with some room for antennas, and maybe just a garden shed or trailer for the equipment.

In the first instance, we can easily use additional computers, networks, switching equipment, and keyers. In the second, we will want to avoid having to keep a computer running "out in the field," and will want to limit the amount of on-site station equipment.

Your operator site also shapes a good remote contesting solution. Your operator site could be:

♦ Your city townhouse, or summer cabin. You'll be there for an extended time, and you're willing to bring (or ship) more equipment than you can easily carry. This allows additional computers, remoterig modems, larger display screens, power supplies, and keyers. On the other hand,

♦ When you are travelling for a short-term work assignment. You'll want to be traveling "light" and not carry extra (i.e., unnecessary) equipment. You can barely accept lugging about a laptop and a good pair of headphones. More of the solution equipment should remain back at the station site.

Let's look at how two contesters met their remote needs, with two different solutions. I've simplified some of these descriptions to illustrate the differences.

K7RL: Operating with just a laptop and a headset. Keep everything else at the station.

NA6O: Some local gear and software, and even more gear and software at the remote station.

Mitch, K7RL, is a big-time contester, WRTC competitor, and a busy guy. He has built an impressive contest station on Camano Island, Washington, and wanted to be able to use it remotely — from the kitchen table or across the country or world. He wanted it to feel like he was in the shack but had previously been disappointed with poor audio quality and lack of control for key equipment (amplifier, antennas, rota-

Mitch, K7RL, can operate his station with just his laptop. [K7RL photo]

tors). Finally, in 2017 it came together for remote operation for Mitch.

After trying several audio programs, Mitch settled on *RemAud* by DF3CB, **df3cb.com**. It's free, simple to use, requires little setup, and includes both the server and client software. It was *designed* to be used for Amateur Radio audio over the internet.

For radio control, Mitch tried several popular applications, but settled on N4PY's *Pegasus Plus* to control the station's Elecraft K3. The high level of customer service from Carl, N4PY, helped Mitch get everything working. While the on-screen display may not look like a K3, it has all the needed functions, and during a contest Mitch looks at the logger, not at the radio. Mitch uses *N1MM Logger+* and connects to the N4PY software as if he had a local radio. Mitch found the *Acom Director* software adequate for the few times he has to adjust the highly automatic Acom 2000A amplifier.

Green Heron Engineering had the software for controlling the rotator a rotating pole of Yagis. While antenna selection is automatic by band, a few "extras" such as the StackMatch and secondary antennas can also be controlled by the *Green Heron Everywhere* software.

Note that Mitch runs all this software on the shack computer and connects his laptop to his shack computer using *GoTo-MyPc*, **gotomypc.com**, or *TeamViewer*, **teamviewer.us**. These "remote desktop" programs let a remote laptop see and control everything on the shack computer.

Everything looks as it does in the shack, just on a smaller laptop screen. All Mitch needs to carry with him to access and run his remote station is his laptop.

How well does it work? A first, all-remote operation was the May 2018, 7th Call Area QSO Party, where in 16 hours Mitch made 565 CW QSOs and 1,140 SSB QSOs. The rate meter was hovering around 220 per hour at times on SSB. Very nice! Mitch has since added *RemoteRig*, **remoterig.com**, units to his station to allow the use of an actual K3 front-panel (the K3/0-Mini) as well as providing an alternate means of audio and radio control. Mitch has been making the system "foolproof" and now allows other hams to use his station. He has additional information and photos on his website, **k7rl.com**.

A different and contrasting example is that of Gary, NA6O. Limited antenna space and high RF noise at his home station led him to participate at the nearby N6RO contest station, and then set up for remote access to N6RO. During contests, the N6RO station will have operators both on site and coming in remotely by either RemoteRig units to a RemoteRig/Elecraft K3 position at N6RO, or more recently, coming in remote via FlexRadio *SmartLink* software to a FlexRadio position at N6RO. Antennas, amplifiers, and radios all are at N6RO, with interlocks to prevent operating positions from colliding on the air.

For Gary, remote access meant installing the FlexRadio software on his home station computer and becoming familiar with its operation. He also runs a "remote desktop" program to access the N6RO station computers to access logging and rotators, and to coordinate with the other station operators. *N1MM Logger+* is run on computers at the N6RO station, so the shared log is always current and doesn't complain about radio timeouts in case a remote operator drops off.

The FlexRadio *SmartLink* software provides a large, useful, spectrum display, and on-screen access to all radio functions, although operators have to learn to use the new interface. Gary is impressed with the initial experience, and expects the Flex software to be enhanced over time. He is also looking forward to using the software to access other FlexRadio-equipped stations. All this local and remote operation has stuffed Gary's shack with equipment, so he is a long way from being a laptop-only remote contester.

Gary, NA6O, at his station equipped for local and remote operation. [Photo courtesy of NA6O]
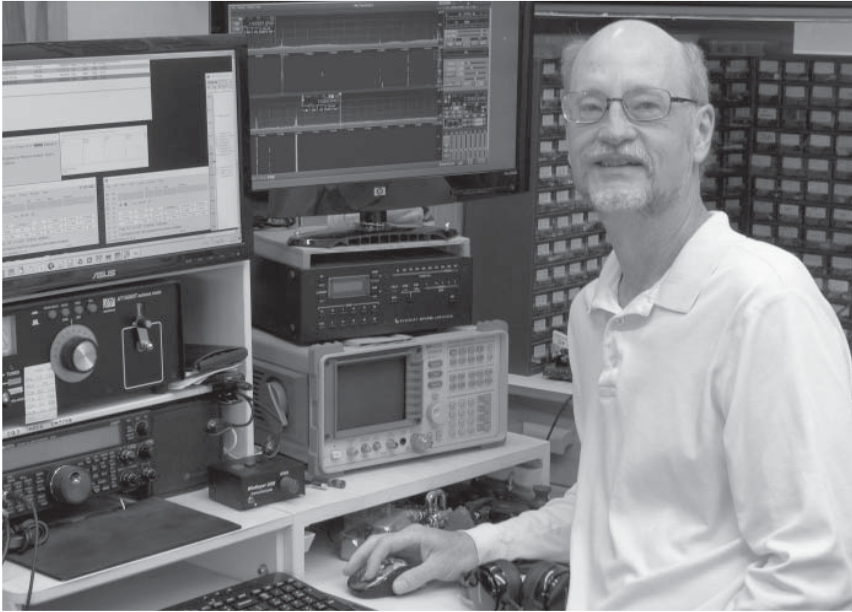
What's our takeaway from these examples? There are several ways to meet your requirements for remote contesting, depending on the characteristics of your station site and operator site. Various solutions can meet your needs for portability, for a virtual or real front panel, and for automatic or hands-on control of the equipment. No single piece of equipment or software solves everything, and success requires combining the station and operator site capabilities with hardware and software located as needed to meet the contester's needs. In other words, the art of station building is alive and well in the remote operator community. See you in the contest!