



Second Century

The Case for Remote

Some 15 years ago, ARRL staff member and author Steve Ford, WB8IMY, wrote perhaps the first comprehensive book about remote operations of an amateur radio station via the internet. In Remote Operating for Amateur Radio, Steve talked about how these times, they are a changin', and indeed the past decade and a half has seen huge advances in the ability to operate your station remotely. It would be easy to suggest this is being driven by the restrictions placed on hams who are living in deed-restricted communities, but that tells only part of the story.

Today, hams are driven by myriad reasons to access remote stations, including escaping high-noise environments, having small properties that don't allow for larger antenna or tower construction, or having the ability to operate a station from anywhere including a coffee shop or hospital bed. Those are the obvious drivers, but innovation is being pushed even further by remote operating from locations where the simple logistics of getting there are nearly impossible or cost prohibitive. Look at the expeditions that George Wallner, AA7JV, has made possible (such as Jarvis Island, N5J, in 2024) due to his efforts to implement a Remote in a Box (RIB) station. The radios and antennas are placed on the beach of an island, for example, and the team operates the stations from George's boat. But that's not all, adding another layer of access using StarLink has provided top operators from around the world the opportunity to remote into his boat and operate the RIBs remotely. Amazing!

For us everyday hams, the software space has advanced significantly. Applications that allowed you to have basic control over your PC have advanced to products like *AnyDesk*. This free software client provides superior ability to operate a computer remotely, and adds functionality including local and remote file management. Which leads to the first philosophical difference in remote station design and access: where do you put the rest of the software? Some stations will put logging and digital mode software on their local computer to use the remote station, while others advocate for putting all of the software on the remote PC.

As a part of the experimentation and education for staff at HQ, I have undertaken three remote stations using various designs. The first is located at PJ4G on the island of Bonaire. The availability of high-speed, reliable internet has supported the model of all software local to the operator. The second station was inspired by remote operations guru Gerry Hull, W1VE. His model has all the software at the remote site, and tools like *AnyDesk*, *Win4Yaesu*, and *Mumble* (for voice and CW). With this model, the radio and PC are located at

the home QTH of Noah Gottfried, K2NG (who owns the PJ4G station). This second station will be used exclusively on 6 meters this summer to study propagation. The third station, to follow later this year, will be a remote satellite station at W1HQ. This model will use proprietary Icom software to have full access to the IC-9700 and will have a Node-RED dashboard to control the rotators and preamps.

A few columns ago I had suggested that taking on a remote project, especially if you're only looking for FT8 and have a modern transceiver, is a remarkably easy project. With all of the other tools you can use with *WSJT*, it actually becomes a form of gaming while you chase your favorite awards. One of those tools is *JTAlert*, which some of us at HQ use. We call it "hunting for yellow boxes" as we look for new countries or states. With a remote station where you may have more room and no restrictions on antennas, you can open yourself to far more opportunities to experiment with antenna design, radiation patterns, and performance. This too adds to the gaming aspect of understanding how to best use your station to hear the other station and work it. This is one of the driving reasons that contesters are looking to remote! Build a big station and have your team access it from anywhere, using every antenna for that winning edge.

You'll see that coming in July we'll have a special single-month edition of ARRL's *National Contest Journal (NCJ)* on remote. We also have a book on remote that is in the early stages of production, set for 2026 publication. Get remote radio active! It's easy and makes for a great club project. Be a connector! Get with others, like Gerry, who are successfully running remote. And let me know how your remote projects evolve. The internet is creating the next frontier for amateur radio and we're proud to be a part of it!

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