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QRP CW Transceiver
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Enjoying the Outdoors and Amateur Radio

**How planning and strategic use of technology made
this ham's activations more efficient.**

Stuart Thomas, KB1HQS

When I learned that Mount Mitchell, in North Carolina, is the tallest peak east of the Mississippi, at 6,684 feet, I decided to head south from my home in Virginia to explore North Carolina and activate several Summits on the Air (SOTA) and National Parks on the Air (NPOTA) units, including Mount Mitchell.

In July 2016, I drove down to Asheville, North Carolina, and activated as many sites as I could in a 4-day period. I loaded up the car with my dog, an Elecraft KX3, several portable batteries, and a variety of portable antennas.

The Value of Knowing Before You Go

After an 8-hour drive, I arrived at the Blue Ridge Parkway and quickly activated “north” Green Knob (SOTA designation code W4C/CM-020) with 13

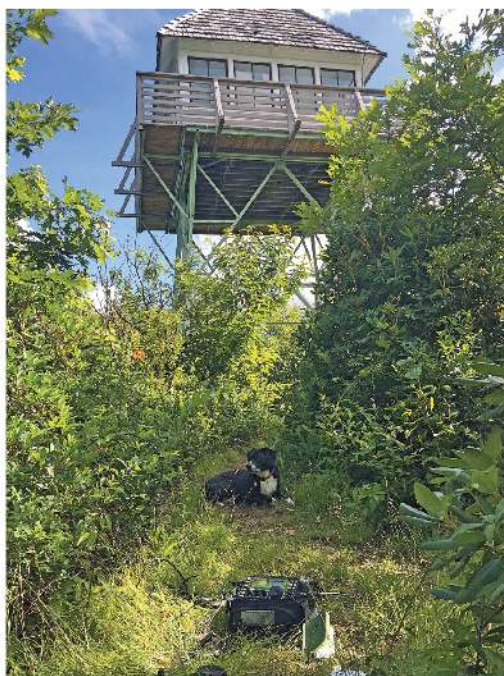


Figure 1 — The fire tower on Green Knob summit, more than 5,000 feet above sea level.

contacts. This was an easy hike, and the fire tower at the summit made for a quick deployment of my end-fed

antenna (see Figure 1). I used my water bottle and some lightweight nylon line as a weight to get the antenna aloft. Prior to this trip, I’d done online research to see images of the “north” Green Knob Summit to get an idea of what I should expect. Knowing ahead of time that there would be a large tower at the summit allowed me to bring less gear than I normally would for similar trips. For example, I did not need the large antenna mast that I often use for summit activations, or lots of spare heaving line.

A short drive away from my completed activation, I camped out for free in the Pisgah National Forest. It’s managed by the US Forest Service (www.fs.fed.us), which is a great resource for free camping and radio operations in remote areas of the United States. That night, sleeping out in my hammock next to a camp-

fire was a great way to end my first day.

An App that Maps — Even Without Cell Service

The following morning, I got up early to activate Mt. Mitchell (W4C/CM-001), Craggy Dome (W4C/CM-007, see Figure 2), Lane Pinnacle (W4C/CM-018), and Peach Knob (W4C/CM-097), almost all of which were a short hike off the Blue Ridge Parkway. This allowed me to complete several activations in 1 day with some pre-planning, quick activations, and strategic use of technology.

To increase my hiking efficiency, I used a cell phone app called *Gaia GPS* (www.gaiagps.com). SOTA summits are often located in areas where cell reception is minimal. *Gaia GPS* allows the user to access a variety of topographic and overhead satellite maps offline, creating an easy-to-use GPS and map viewer. Before the trip, I also uploaded a selection of waypoints for parking lots, trailheads, and summits. This reduced my travel time to each trailhead and allowed me to be better oriented while hiking to each summit. Another useful feature is the ability to take pictures that are geotagged with latitude and longitude — this helps to identify hidden trail entrances and other notable spots.

Four successful activations later, I was done for the day. That night, I entered my logs into my logging software and rested.

Hamming without Hogging the View

On the third day, I completed two more activations — Mount Pisgah (W4C/CM-011) and “south” Green Knob (W4C/CM-023). Mount Pisgah is a very popular hiking site. I got an early start and managed to beat the crowds by about 30 minutes, and the temperatures had not climbed into the 90s yet. Even so, by the time I

Summits on the Air

Summits on the Air (SOTA) is an awards program that challenges hams to climb to the top of a summit (defined as a mountain peak with a topographical prominence of at least 150 meters) and operate from the peak. Those who operate from the peak are called “Activators;” those who follow the SOTA program from the “ground” are referred to as “Chasers.” Each summit is given a unique identifier, as well as an elevation-based point value between 1 and 10. After accumulating 1,000 points, Chasers are eligible for the “Shack Sloth” award and Activators may claim the “Mountain Goat” award.

Participants can upload their logs to the SOTA website (www.sota.org.uk), where the database is updated immediately. The activation history for any summit may be reviewed, as can the accomplishments of the many Chasers and Activators. There are no rules limiting power levels, modes, or bands. The SOTA program is the brainchild of John Linford, G3WGV, and was launched in England and Wales in 2002. The program has grown rapidly throughout the world since then — over 20,000 summits have been activated to date.

Current activations can be found at nearly any given moment on www.sota-watch.org, where active “spots” and “alerts” are listed.

reached the summit of Mount Pisgah, I was starting to slow down due to the high heat and humidity.

An important consideration when operating on summits is to know proper trail etiquette and make sure not to affect the other visitors’ experience. For example, while at the summit of Mount Pisgah, I decided to set up my radio gear away from the viewing deck, in order to give the other hikers an uninterrupted view

and some peace and quiet, rather than disrupt their experience. Setting up there also allowed me some privacy and space to set up my antenna without the concern that someone would trip over my coax or antenna support lines.

I finished up with 12 contacts and made my way back to the car to head to my last summit of the day, “south” Green Knob, where heavy afternoon thunderstorms were developing. The



Figure 2 — Stuart Thomas, KB1HQS, and his dog, Trail Dog or T-Dog, activating Craggy Dome. T-Dog has accompanied Stuart on numerous NPOTA and SOTA activations. Stuart reports that he is “an awesome radio dog.”

ridge line to the Green Knob summit is somewhat exposed, so I hustled to get on the air, make my contacts, and get back to the parking lot before getting drenched. Luckily, I always carry a heavy-duty trash bag when operating outdoors, so I can waterproof my radio gear, but I made it back to my car before the storm moved in. At that point, I decided to head back to my campsite for the remainder of the day.

Taking Questions from the Crowd

My fourth and final day of activations included Black Balsam Knob (W4C/CM-005) and Richland Balsam (W4C/WM-003). Black Balsam summit had some of the best views of the whole week; however, the crowd of hikers at the summit was more interested in what I was doing than the scenery. While I try to be an ambassador of the hobby, it is hard to make contacts when people have many questions. I have created a QSL-like card (see Figure 3) to hand out to interested onlookers on future



Figure 3 — This QSL-type card provides an explanation of what Amateur Radio is all about, and offers resources for further information.

activations, which will provide basic information and my web URL (kb1hqs.com).

After my impromptu ham radio demo and activation of Black Balsam Knob, I finished the day with Richland Balsam. With the previous eight hikes and heat starting to take its toll on me, I wanted to finish strong. After a nice pileup, 32 contacts were logged, and I finished my 4-day SOTA/NPOTA activation trip.

Several of the SOTA summits fell within NPOTA designators for the

Blue Ridge Parkway (PK01), allowing me to give my Chasers designators for both programs and vastly increasing my chances of making contacts. Once I returned home, I cleaned my gear, uploaded my logs, and realized I qualified for my first 100-point Activator SOTA award. Another successful Amateur Radio adventure.

Visit <https://youtu.be/fokNeNvT10k> to view the accompanying video,

“9 SOTA Activations in 4 days in North Carolina.”

ARRL member Stuart Thomas, KB1HQS, is a mechatronics engineering student and a portable radio operator enthusiast. In 2016, he completed over 500 activations for National Parks on the Air (NPOTA) and was the top Activator. Stuart enjoys other outdoor operating activities including Summits on the Air (SOTA) and hiking. He holds an Amateur Extra class license and has an Amateur Radio and adventure website at kb1hqs.com. He can be reached at kb1hqs@arrl.net.



QEX authors touch upon several aspects of Amateur Radio — from circuit behavior, to antenna design, to the directing of energy radiated by antennas. The May/June 2017 issue includes the following:

- Michael Knitter, DG5MK, describes a complex-impedance analyzer that uses a heterodyning technique and high-resolution ADCs to get good accuracy at low cost.
- Robert H. Sternowski, WB0LBI, uncovers old measurements, which show that vertically and horizontally polarized noise can differ by tens of deci-

bels in the lower HF bands.

- Paulo Renato F. Ferreira, PY3PR, updates the Octopus V/I curve trace by providing selectable scanning voltages for testing.
- Maynard A. Wright, W6PAP, provides *Octave* software for computing the performance of transmission lines having a complex characteristic impedance.
- Riccardo Gionetti, I0FDH, describes an automatic tracking filter for a DDS generator.
- Euclides Lourenço Chuma, PY2EAJ, describes a modern RF power meter with accuracy that rivals the best commercial RF power meters.

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