

Pacific Northwest SOTA Newsletter



January-February-March 2021

Maggie on Cougar Peak by Amy-AG7GP

The Care and Feeding of Chasers – Darryl-WW7D

SOTA is a symbiotic activity with a role for both activator and chaser. Activators can activate by making QSOs from non-SOTA participants, but our success as activators is greatly enhanced by the enthusiasm and determination of SOTA chasers. It makes sense, then, that we should conduct our activations to preserve the enthusiasm of our chasers.

Working entirely from home over the past nine months has greatly increased my SOTA chasing. The experience has given me fresh insights into activating in ways that make life easier for chasers. I've witnessed suboptimal practices by activators and practices that made chasing much easier. This article collects some of my observations and thoughts on how to activate in a way that serves our chasers well.

To begin with, consider what a chaser hears when she is trying to work you. For many chasers, your signal will be exceedingly weak, perhaps right at the noise level. And there will likely be some QSB. There may be QRM, as well. Much of the advice that follows is about practices to help your chasers successfully break through the noise, QSB, and QRM.

Have a Good Signal

One way to cut through the noise is by having a strong signal. More power does translate into more S-units, but who wants to carry the extra weight of an amplifier and batteries? One way to get a signal boost without adding much weight (if any) is by using an efficient antenna that is effectively deployed.

Simple, effective SOTA antennas are easy to build. A 58-foot end-fed with a 9:1 UnUn with a counterpoise of around 15' is an effective antenna that can be built in a couple of hours, and works well if you will be using an antenna tuner. A linked dipole fed with small diameter coax is easy to build and deploy and is lightweight. It is a very efficient antenna for 20+30 or, better yet, 20+30+40. I've done direct comparisons, in the field, between the end-fed and the dipole; the dipole usually has a ½ to 1 s-unit advantage. The end-fed has the advantage that it is more omnidirectional and there are no links to mess with when changing bands.

Two antennas I do not recommend are both mentioned in the KX2 owner's manual (pg. 10)—a pair of 25' wires on the center post and a short whip vertical. Neither of these antennas is very effective for SOTA. Both you and your chasers will be frustrated using them.

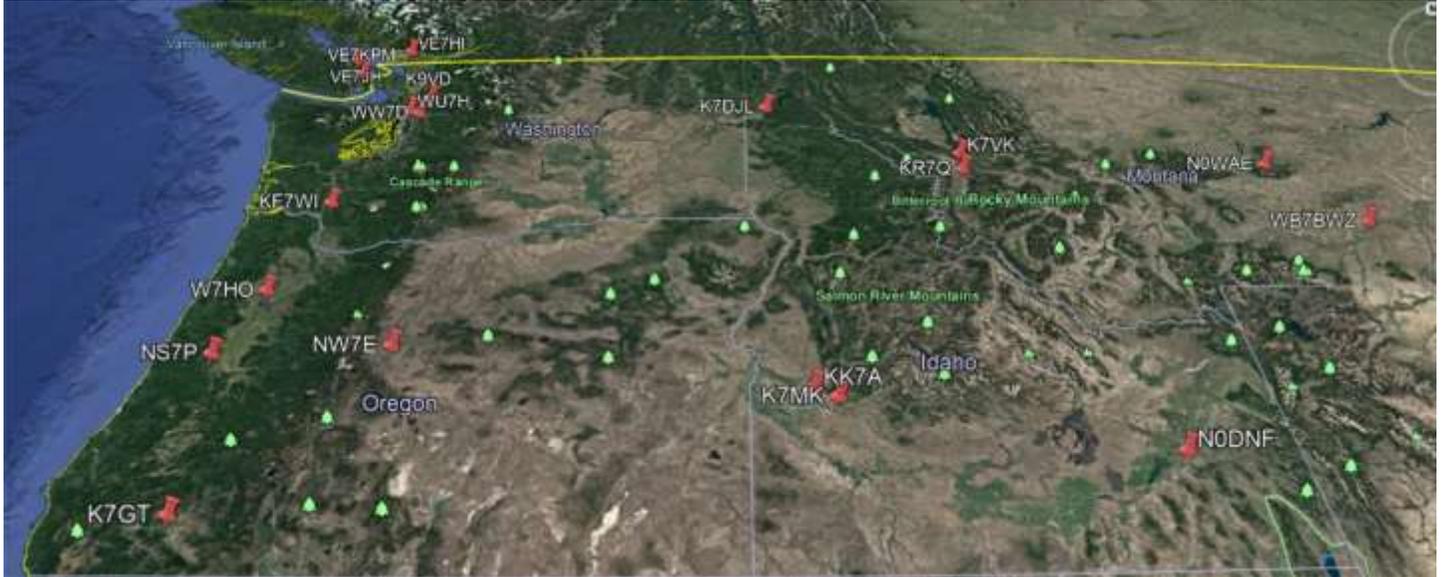
The other aspect of having a good signal is the quality of your audio or your CW. These should be tested from home so that you don't find yourself scrambling to adjust, power, mic gain or compressor settings on the summit. Set up your station in your back yard or a local park and do a test run with a local ham.

Use Long-range and Short-range Bands

One of the best things you can do to support chasers is to try multiple bands with a variety of propagation characteristics. For many activators, 20m is the "money band" because a spot on 20m usually brings a pile-up. The only problem with 20m is that your signal will skip over stations within, roughly, 500 miles of you during the day. Thus, a

20m-only activation will exclude your nearby friends in the region. To feed regional chasers, it is usually necessary to try 40m, or even 60m. The 40m band during the day usually works regionally with a “short skip” pattern. The 30m band can go either way during the day. Sometimes it is even worth trying 80m.

There is an active group of Northwest chasers (NW7E, NS7P, K7GT, KF7WI, WU7H, K7MK, W7HO, K7RMO among others) who would love to work you. On any given day, many of these chasers will notice your spot on 20m and will hold hope that you venture into the longer wavelengths. The Google Earth image below shows the 2020 top four chasers in each PNW Association – have you worked all of them? Use 40m, 60m or even 80m when you can, to include folks that you could meet in person someday!



The same can be said for long-skip on higher frequencies. If you think there is even a chance for an opening into the Pacific, a spot and a few CQs on 17m or 15m might snag some DX from New Zealand (think, ZL1BYZ) or Japan. When I do an activation unconstrained by a short schedule, horrendous winds, extreme cold, threatening rain or approaching darkness, I proceed with the mind-set that my activation isn't complete until I've worked a certain set of highly active chasers. That means working Gary & Martha (WOMNA & WOERI) and Rich (N4EX) on 20m; Phil (NS7P), Michael (NW7E), and Ken (K6HPX) on 30m, 40m, or 60m; and John (ZL1BYZ) on 20m, 17m or 15m. If I succeed in that, I am pretty sure I've fed all the other hungry chasers, too.

If you are doing a joint activation it is not necessary for each operator to activate all bands. Rather, you can split up the bands so that one activator does, say, 20m & 17m and the other operator does 30m & 40m. Some chasers will want to work all operators on an activation but will settle for working the summit.

Other Operating Practices to Aid Chasers

There are numerous operating practices you can do to assist your chasers in small ways. Here are some thoughts, offered in no particular order:

- Picking a Frequency: There are good and less-good frequencies to use for SOTA activations. Perhaps the first rule of thumb is to activate where other SOTA activators operate. For example, most seasoned SOTA operators on 20m CW will stay between 14.061 and 14.068 MHz. Most will avoid 14.060 MHz, which is the QRP calling frequency. The spectrum between 14.000 and 14.059 is usable for SOTA, but it is frequently crowded with high power stations that will make things more difficult for your chasers. And below 14.025 is reserved for Extra Class ops in the US, limiting your Chaser or S2S pool.
- For SSB, things are a little looser, if only because the entire band segment may be quite busy. One idea is to check spots and set up near another SOTA station doing the same band and mode. Don't get too close, however, as your strong chasers may cause QRM for the nearby SOTA station. Be aware of license class restrictions. For example, operating below 14.225 MHz will prevent General Class chasers from working you. On 20m SSB, consider operating near the upper band edge, like 14.345 MHz or 14.347 MHz.
- Make noise: Don't create long pauses. If nobody is answering you, call CQ frequently (assuming you are not concerned about your battery capacity). If your radio has voice or CW memory capabilities use them to call CQ,

QRZ, or for the salutation in a QSO in order to minimize pauses while you are logging. Avoid logging on your cell phone or tablet if it causes long pauses. Use pencil and (waterproof) paper instead.

- Don't spot yourself and then wait around for callers. Chasers will be reluctant to call you based only on a spot, because they might be causing QRM. Ideally, you should be calling CQ before your spot shows up.
- Pile-ups: At times, you will have a DXpedition-like pile-up. And you are the DX. When this happens, it is important to be efficient and predictable. Avoid rag-chewing, talking about the weather or the spectacular views.
- It is important to control your pile-up. Chaser behavior will be strongly affected by your operating practices. Be assertive and have a snappy pace for the QSOs. To the extent possible, try to respond to the first station to call you, and avoid "tail-enders." If chasers think they will gain an advantage by "tail-ending," they will do so. That will slow down your QSO rate and making QSO completion more difficult. I try to ignore tail-enders or people who send their call twice during a pile-up. If I am unable to copy any call signs from the pile-up, rather than answer tail-enders, I'll call QRZ and try again.
- Have a routine: When chasers can barely hear you, it is extremely helpful to have a fixed and easy-to-identify routine for each QSO. This is particularly important at the end of a QSO to have a clearly recognizable pattern like "73 dit dit" or "QSL 73 TU" or "R 73 QRZ?" in CW. In SSB, you might include your call sign: "73, QRZ from WW7D" or "73 from WW7D QRZ?" When calling CQ, it is good to have it sound conventional, "CQ SOTA DE WW7D K" in CW is probably better than ending with a SOTA reference. When calling CQ in a phone mode, avoid commanding phrases like, "Anybody that can hear me, please respond with your callsign," unless you are truly desperate with no responses.
- Priorities: Summit-to-summit (S2S) calls should always get priority. Sometimes, when I have a large pile-up and suspect there are S2S stations calling, I'll send "QRZ S2S?" I give mobile stations and DX priority after S2S.
- Identification: When working pileups, activators will frequently speed things up by omitting their call sign between individual QSOs. This is quite useful but be sure to send your call occasionally to let chasers verify that they are chasing the summit they think they are chasing. Of course, the FCC requires identification at least every 10 minutes and at the end of your run on a frequency.
- In the same vein, don't repeat your summit identifier with each QSO. This is unnecessary, as almost every chaser has the information already. If not, a chaser can ask for your reference. It is good to send your summit identifier occasionally. If nothing else, this practice will help correct any spotting errors. During an S2S QSO, you should send your identifier with the exchange; this is customary.
- Use standard phonetics whenever you give your callsign or summit reference.
- When the chaser doesn't respond: Commonly, a chaser will fail to respond to your report. While it is possible he lost power in the middle of the QSO (been there!), chances are, your signal faded out. When this happens, it is a good idea to repeat the full exchange beginning with the chaser's call sign. If it happens on the second try, I modify the exchange to something like, "W4XYZ 53N 53N W4XYZ BK". This pattern increases the odds that the chaser will hear her call at some point in the QSB cycle.
- Spotting: Before you spot, go to your intended frequency and send "QRL?" or "Is the frequency in use?". Listen for QRM from nearby stations. If all seems well, then, use the memory keyer/voice memory in your rig to start calling CQ while you spot. This will help "hold" your frequency while you spot. And you may discover before finishing your spot that there is another station on frequency after-all. You can change frequencies without leading chasers on an adventure across the sub-band.
- On the topic of spotting, if you ever feel the need to send a test spot, send a nonsense frequency/modes combo, like 14.000 MHz AM, and put "ignore test" in the comments. Every time a spot appears, there are dozens, if not hundreds, of people who are alerted with a chime or bleat from Stinky Goat. Be kind to your potential chasers by making it obvious that they should ignore the spot. I cannot count the number of times a spot caused me to do a hasty QSY, only to notice the comment after listening and hearing nothing for a minute or two.

Operating Practices for VHF

Some aspects of VHF SOTA operations are different enough from HF operations that some additional points can be made:

- Open the squelch on your radio when listening for responses to your CQs. Usually, chasers will have more power and better antennas than you do, but with an open squelch, you just might hear a chaser from another summit, or a chaser using a handheld radio.

- When a chaser can't quite copy you, move to a higher spot. Sometimes even a foot or two of elevation makes the difference. Likewise, if there are solid obstructions in the direction of the chaser, do what you can to get to the side (or on top) of the obstruction. For frequencies above 222 MHz, even trees will attenuate your signal.
- Change the location and orientation of your antenna to "peak up" the chaser's signal. Keep the antenna frozen in the same orientation in the same spot when you respond. Some chasers will have horizontally polarized antennas. In that case, peak up their signal with your antenna held sideways and rotate so that your antenna is broadside to the chaser.
- Some chasers will be using rotatable yagis to work you on VHF. It can then be helpful to give a long call so that the chaser can tweak the direction to peak-up your signal.
- Let SOTA chasers work you first. The national FM simplex calling frequency (146.52 MHz) isn't always the best place to start on 2m, particularly near urban centers. If you are near an urban area with spotting capabilities, spot yourself on another simplex frequency (e.g. 146.58 MHz or 146.56 MHz). That will let chasers see your spot and work you first and give a chance to other activators for a Summit-to-Summit with you.
- Many folks monitoring 146.52 MHz may not be much interested in SOTA – if they want the Summit Reference they will ask for it. Also, calling "CQ SOTA" may not be as enticing as calling "CQ Mountain-top Portable" – you may generate interest (or even sympathy!) from folks.
- On a related note, if you do call CQ on 146.52 MHz and you get a large number of responses, ask everyone to QSY to another simplex frequency. "This is W7XYZ and I hear many callers. I am going to QSY to 146.58..." This will minimize you tying up the calling frequency. It will preserve a good image for you and SOTA and helps other users of the frequency.
- Finally, on summits with radio equipment present, the front-end of your radio may be overloaded by RF. If you are unable to hear any chasers responding to your CQs, this may be why. You can try enabling your radio's RF attenuator (if it has one), change to a lower gain antenna, and get as far away from the RF antennas as you can. If none of that seems to help, don't keep calling on that frequency, particularly on 146.52, as you may be disrupting other QSOs. Consider trying another band or another frequency.

Giving out points to chasers helps keep them giving us the four contacts we need for our points – keep them happy and you'll be happy too! 73, Darryl-WW7D

QRP CW Rocks! Yeah, it actually does – here's some cool QRP info from Ham Radio Secrets: [A 5-Watt signal is only two S-units below a 100-Watt signal!](#) Here are some interesting observations.

Paul, **W0RW**, mentions in the *NAQCC Newsletter* issue 258 of December 2019, that "*The effective gain for CW vs SSB has been calculated at +18 dB.*"

N1FN had also postulated as much in an article first published in "*73 Amateur Radio*" Issue #474, May 2000, that can still be found here: http://home.windstream.net/johnshan/cw_ss.html.

John Shannon **K3WWP** (http://home.windstream.net/johnshan/cw_ss.html) submits an interesting mathematical demonstration by which he arrives at "... a 100-Watt 25 WPM CW signal having a +13 dB advantage over a 100-Watt 2000 Hz SSB signal". He concludes from that "... a 5-Watt CW signal packs an equivalent punch to a SSB signal at 100-Watts."

Kazimierz "Kai" Siwiak, **KE4PT**, and Bruce Pontius, **NØADL**, in an article published in Dec 2013 QST magazine titled "*How Much "Punch" Can You Get from Different Modes?*" (<https://www.qsl.net/k4fk/presentations/Mode-sensitivity-2013-Dec-QST-Siwiak-Pontius-1.pdf>) concludes: "... CW can outperform unprocessed SSB by 17 dB."

RSGB.org also indicates that: "A CW signal can have more than a 10-20 dB advantage over a SSB signal (depending on which book you read)". (<https://rsgb.org/main/get-started-in-amateur-radio/operating-your-new-station/morse-code-is-still-worth-learning-but-why/>.)

Slothing From Your Mobile! – QSO Today podcast with Keith Schlottman chases from his car due to HOA restrictions: <https://www.qsotoday.com/podcasts/KR7RK>

4th of July SOTA-fari – by Amy-AG7GP

Every year Robin-N7HAP, and I go camping in Eastern Oregon. It's become a necessity to have a few days in the middle of nowhere to rest and get away from the hustle and bustle. Early this summer with SOTA now on my mind, I looked at some of our maps to see if there was an area that would be fun to camp at and also do some activations. The places we usually go to have a few summits but they are typically few and far between and can take some serious jeep driving to get close enough for me to do the hike. So I looked a little closer to home, not as far east as usual, and found an area in the Fremont NF west of Lakeview that looked appealing. There were several summits that had never been activated and a couple lookout summits that had been done by NS7P.

To start, I decided to get some USFS maps to make navigation and planning a little bit easier (hard on a cell phone screen) and marked with a sticker each summit I wanted to give a try, marking more than I would get to so I would have some back up if any were a no go. I tried to get an idea of how difficult the roads would be, how far the hike would be, length of time to reach summit, time of day we would arrive, etc. I color coded which ones would be a FA (first activation) and which had already been done. I have found that planning ahead is essential but maps only give a small amount of information and you have to be prepared to turn around and abort your well-intended plan. Using OnxOffRoad, I was able to get an idea of open roads, gates, private/public, width and type of road, etc., but some summits I thought would be a breeze ended up impossible, at least within my time schedule. Two summits I figured would be a simple drive up and go, were either too treacherous or not even possible.

On our way we first tried [Yainax Butte](#) outside of Bly. This was a tough start to our trip. The choice of roads was poor and it was rock crawling, gate opening and closing, slow, slow, slow, to get close enough to hike and it consumed our day. I honestly don't think there is an easy way to this mountain. It was one of those mountains where I felt we came this far, it's hard to turn around now. Since this knocked us hours behind schedule, I did a very quick activation and moved on. However, the view and wildflowers were amazing.



We got back onto Highway 140 and drove on through the Cottonwood Meadows Lake area, which is very beautiful, keeping eyes open for camping ideas. We prefer primitive camping over established campgrounds so we moved on past, it was busy for 4th of July weekend anyhow. Next stop we ended up at [Cougar Peak](#) (Maggie admiring the view in the newsletter banner above). This is a fascinating summit of stacked shale. This too was a treacherous road I would not recommend to most drivers. Robin can go to extremes, seeing what him and the truck can do! There are such tight switchbacks it takes some maneuvering to make the turns, and the loose shale with steep drop off is unnerving. However, you can make it to a trailhead sooner and have a pretty good day hike instead. I think Cougar Peak was the highest of the nine I did during this SOTA-fari and it has a spectacular view of the surrounding area. The sun was going down and we still needed to find a place to pitch our tent, so again a quick activation and we headed off the hill just as the sun was getting low.

We decided to set up camp just at the base of [Peak 6490-W70/CE-254](#), a no-name summit we now call "Five Bears" due to the number of bears we encountered during our three-night stay. It was a lovely camping area in Fremont NF, with red blankets of Indian paintbrush beneath the tall sugar pine timber. We didn't experience another human at this location but the first night Maggie (our dog) alerted us to a cinnamon sow and two cubs tearing apart a down log about 100 yards from our camp. It was very special to see the two cubs hopping down this long log to their mama! Then the next morning we had a boar black bear come poking through at breakfast, then another a little later. May have been the same bear, not sure. I seem to be a bear magnet this year!

After breakfast we summited "Five Bear." We took a different path back and got really tangled up in the 6 to 8-foot tall solid buck brush. After this we moved onto summit number two, [Peak 6370-W7O/CE-257](#). With some tight, brushy, jeep driving, this was a short hike. I have been calling this summit Heartache Hill as we got news of losing a family member while on top of the summit. It was a peaceful place to be however. We carried on to one more before the sun went down, [Peak 6650-W7O/CE-252](#). By this time I was getting tired and foggy brained. This was a steep climb up through charred timber and brush. Pretty uneventful, but a great view of Cougar Peak and other summits we had activated. That was enough to call it a day for sure!

Rise and shine, we headed to check out another no-name, also maybe [Dog Mountain Lookout](#), hoping to work our way to Fishhole Mountain. Our day did not go exactly as planned but was still a lot of fun. We started up Dog from the east side which was a mistake, road was not usable. Turned around to check out Peak 6389-W7O/CE-256. Both of these routes failed due to overgrown roads, mudslides, dangerous snags. The whole area was basically consumed by a wildfire a few years back. Instead, we enjoyed the view of Dog Lake and then headed to Dog Mountain from the main west entrance and we were welcomed by Lance at the lookout. Outstanding views of Drews Reservoir, Goose Lake, and the whole Lakeview area. Lance welcomed me to set up at the LO but for some reason my KX2 caused RFI on his equipment so I had to move a little ways away. The lookout became busy with a large family who were quite fascinated with some of the contacts I had made. I let my Flora and Fauna friends know I was activating and the DX was excellent there.

From Dog Mountain we went to try Fishhole Mountain-W7O/CE-031 but the road was not accessible. I honestly can't remember the

problem, the days started getting blurry we were so busy hopping from one summit to the next. So I went to one that wasn't high on my list but a "maybe" and it ended up being one of my favorites. No-name [Peak 6435-W7O/CE-255](#) was nearby and I wanted to at least take a "peek" at it. Robin was beat, so he rested while I hiked up. It was a nice shady afternoon stroll up to the summit with a fabulous view off the forested edge, looking down at Butcher Flat Reservoir. On the way back another couple of cubs! I never saw the mama so was on high alert and in communication with Robin for the hike down, making noise. We called this summit "Twin Bear"...and after that, we were QRT for the day... After another nice night in the Fremont, we enjoyed the sunrise and decided it was time to start packing up. But maybe just one more?? On our way out we checked out [Peak 7156-W7O/CE-245](#) to see if the road was accessible. We were able to drive close enough to park and then hike up for a nice bit of morning exercise. We checked out satellite closely to make sure we would avoid the thick patches of buck brush and just zig zagged up the mountain. When I got to the top, my linked dipole connections had detached so I limited it to 20m. The sound of blue grouse "hooting" resonated in the background all morning. At one end of the summit there is a nice big rock formation that was pretty cool too. We called this one "Blue Grouse Rock."

When we got back to our truck it was time to hit Highway 140 and start heading home. But wait...Matt-KC7OOY is almost on Steens Mountain! Why not make one last detour up to [Grizzly Peak](#), it's just a drive-up to the lookout anyhow? On we went for our final summit. I was able to chat with Matt on Steens for a S2S as planned, accumulated plenty more QSOs then called it good. Another awesome view, and the wildflowers and butterflies were plentiful.

Many summits I have done are First Activations or had no info available on them. I have grown accustomed to doing research and keeping a backup plan to avoid disappointment. I felt that if I got six summits on this trip I would be more than a happy camper. Due to planning, backup planning, being flexible to barriers that came, we ended up with nine summits, seven of them had never been activated, about 165 QSOs, mostly CW and earned 54 Goat points. Some mountains I wished I had more time on, but now that I am familiar with this area, I know which ones to revisit and which



ones will probably remain first and last activations for me. I couldn't do these "expeditions" without Robin and his avid outdoor skills, patience, and driving abilities. We make a great team! The weather was perfect and I think we saw more bear than mosquitoes which is very unusual for this basin area. I wouldn't say it was easy, but it was a blast to go on this adventure and I can't wait for our next **SOTA-fari!**

73 de AG7GP

Informal Battery Review – by Etienne-K7ATN

Powering radios on summits is a perennial question for SOTA Activators – most folks carry more capacity than they would ever use. I once did three activations on the 2000mAh NiMH batteries in my KX3 before it died and Fred-KT5X notes that he uses only 4 mAh per QSO with his MTR setup. Some folks might already have a portable power source in their car emergency kit! I started this informal review because of the attractive price point of the smallest and cheapest of the four reviewed – perhaps this will give you some ideas.

Battery / Chemistry	Capacity mAh @12V	Weight	Price
TackLife Jump Starter / Li-Ion	6000 mAh	503g	\$70 w/charger
LifeBox Jump Starter / Li-Ion	3300 mAh	324g	No longer available
TalentCell Li-Ion	<<3000 mAh	196g	\$25 w/charger
Bioenno Power / LiFePO4	3000 mAh	400g	\$49



According to one Amazon reviewer, the "cells" in the TalentCell 3000mAh unit are apparently only 2500mAh, so you should not expect rated capacity. The TalentCell voltage output drops below 11V under a 2A load (it's rated to put out 3A) so it may only suffice for smaller, more efficient 5W radios such as Venus SW-3B and MTR, but not for an FT-817 or G1M. The features include protection against short-circuit. Note that TalentCell has higher capacity units that may be better suited for higher power radios.

The two jump starters provide just over 12V unloaded and drop about half a volt under a 2A load. The LifeBox required making a homebrew PowerPole adapter to connect to the jump-start terminals. The TackLife has a standard barrel connector for 12V devices that is rated at 10A. Both of the jump starters have built-in 5V USB chargers and a flashlight! Both can be charged using a provided 12V accessory plug, as well as an AC wallwart.

The blue Bioenno is the classic standard for many Activators – it already comes with PowerPoles and a proper LiFePO4 charger is a reasonably priced add-on. The customer service is outstanding and with a nominal voltage closer to 13V, it supports higher powered radios – even an FT-857 at low power for a short while. It also has a built-in PCM against shorts, overcharge and high discharge. The 3000mAh is the smallest that Bioenno provides – other sizes are available.

Do You Need Something Beyond Summits on the Air? How about TOTA – "Things on the Air" – from Bob-KØNR:
<https://www.k0nr.com/wordpress/2018/05/things-on-the-air/>

Solar Cycle 25 – Dr. Scott McIntosh suggests that Cycle 25 will be awesome!
<https://www.youtube.com/watch?v=IRNJPKQPog>

SOTA Activator



What my friends think I do



What hikers think I do



What chasers think I do



What other hams think I do



What I think I do



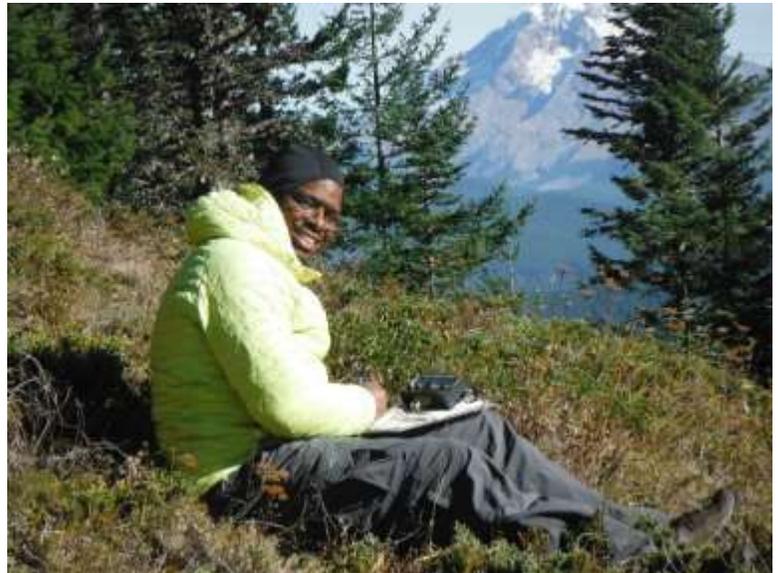
What I really do

“Surprise” Mountain Goat Summit-to-Summit Party for Roland-K7FOP!

After 310 Activations and more than four years – that’s what it takes for an Oregon SOTA activator to make 1000 points – Roland did it in style with a good long hike - 12 miles RT and 3300 feet of gain to W7O/WV-050 – Huckleberry Mountain.

There was lots of activity for Roland with 35 total QSOs; 16 of them local folks on 2m FM that came on to congratulate him for this "Surprise" S2S MG Party. Roland is well known for sharing a trail, a summit and his knowledge with others – he’s an Elmer at heart. Here he is talking about his SOTA experience with the [All Portable Discussion Zone](#).

Roland with a background of Mount Hood at ease working the HF pile up from Huckleberry. →



Using the New IC-705 for SOTA by Ken-KI7VEM

Icom's new IC-705 is a smaller QRP (10W) version of its popular IC-7300 and it has most of the same features and new ones as well, including the 144MHz and 430 MHz bands. But is it a good choice for SOTA activations?

The rig weighs in at 2.4 pounds, which is almost three times heavier than the popular KX2. And if you like to use a non-resonant antenna like I do, you will need an antenna tuner as well.

Because the rig is fairly small, the extra weight and shape makes it awkward to handle, especially if you try to avoid touching the screen while moving it around. Viewed from the end, it is mostly square.

The shape of the rig leads to another issue: how to orient the rig during operation. Placing it with the display in either a vertical or horizontal position causes the viewing angle to be somewhat oblique and unsatisfying. There are no provisions to adjust the viewing angle to a more comfortable position, like 30 degrees for example. I built a small "stand" out of cardboard to accomplish this for flat surfaces.

I am not sure about the best way to secure the rig while activating a summit. One proven method for smaller and lighter rigs is to mount it on the top of a clipboard. This works well for my KX2 but the extra weight of the IC-705 will may make this arrangement somewhat unstable. In fairness, I haven't tried this approach with the rig so it may work okay. There are some threaded holes in the bottom for mounting, including one ¼-20 hole.

Icom does not supply any kind of carrying case for protection. There is an available backpack which will probably not work for most SOTA activators. I ended up rolling it up in a hand towel and placing it in the bottom of my pack. Also, I am not sure how to protect the rig from the elements. Perhaps there will be some third-party accessories in the future.

Marys Peak was my first SOTA activation with the IC-705. I set up on the picnic table near the fence around the repeater site. I used my usual 29-ft wire antenna with 9:1 unun attached to my 31-ft fiberglass pole with 25 feet of RG-174. I was running 10W with an external 12V battery. I used the Elecraft T1 antenna tuner. I made 17 CW contacts on 14 MHz including chasers in France, Belgium, and Iceland. I was thrilled with the DX. The rig performed well and was a joy to use.

Am I going to replace my KX2 with the IC-705 for SOTA activations? The answer is no. The KX2 is small, light, has a built-in antenna tuner, and works great. The IC-705 has more features and better band coverage and has a nifty color touch-screen display. It is really fun to operate. I think it is too heavy and awkward for SOTA. It is perhaps better-suited for Parks on the Air (POTA) than for Summits on the Air. My current plans are to take the new rig to drive-up summits for some QRP DXing or take it out in the field when camping.

Donate to your RadioSport of Choice! – SOTA isn't free to operate – there are many expenses that keep it up – and many volunteers that give their time to have this be a successful worldwide activity that is available to any ham operator – as a Chaser or as an Activator. At the bottom of this link are ways to make a donation to keep the services that you use running and effective: <https://reflector.sota.org.uk/t/financing-of-sota/22284>. Note that the payment units are in GB £ – so £50 is about US \$70.



A Review of the Xiegu G1M by Paul-K6PVZ



I have used my G1M for a couple dozen SOTA activations in Southern California. It's worked fine with both a SOTABeams linked dipole antenna, and a Chameleon Emcomm II end-fed antenna.

My biggest gripe, actually, is while the CW sidetone frequency is adjustable, the sidetone level is not. When I wear headphones and transmit CW, the sound is awfully loud compared with the weak signals I'm trying to hear. The mic looks and feels like a complete toy, and I get mixed signal reports on SSB. The user interface is another unique Chinese invention, but it works well.

I recently bought the new Icom IC-705 and there's not much comparison--and there shouldn't be, since the Icom is five times the price and three times the weight and bulk – but the Xiegu is may be just as good on receive. The teeny waterfall display isn't much use, in part since I can hear signals that don't even show on the waterfall – that's true with the Icom too, though. There are a ton more features on the Icom, of course, but in the end, I think I get most of the same contacts that I would with 5-Watts on the Icom.

My G1M is already scratched up from being thrown in a backpack with other gear, but it has held up. I glued a piece of sheet steel to the top so I could use a magnetic mount for my CW paddles, and I glued a couple more pieces to the bottom so I could use a mini tripod to angle it up toward me. Otherwise, it has no legs and wants to lie down flat where the display is hard to see.

73, Paul-K6PVZ

ANOTHER Review of the Xiegu G1M by Etienne-K7ATN

Despite a number of G1M reviews describing 'sample defects,' I wanted to look at the G1M for possible use as an entry level radio for HF portable operations. Its price point is amazing and many are enjoying the radio and some like Paul above are using the rig for SOTA. Since it does both CW and SSB on at least two of the most used SOTA bands (40m and 20m) the G1M should be worth a look – except that there are so many negatives that it can't be recommended.

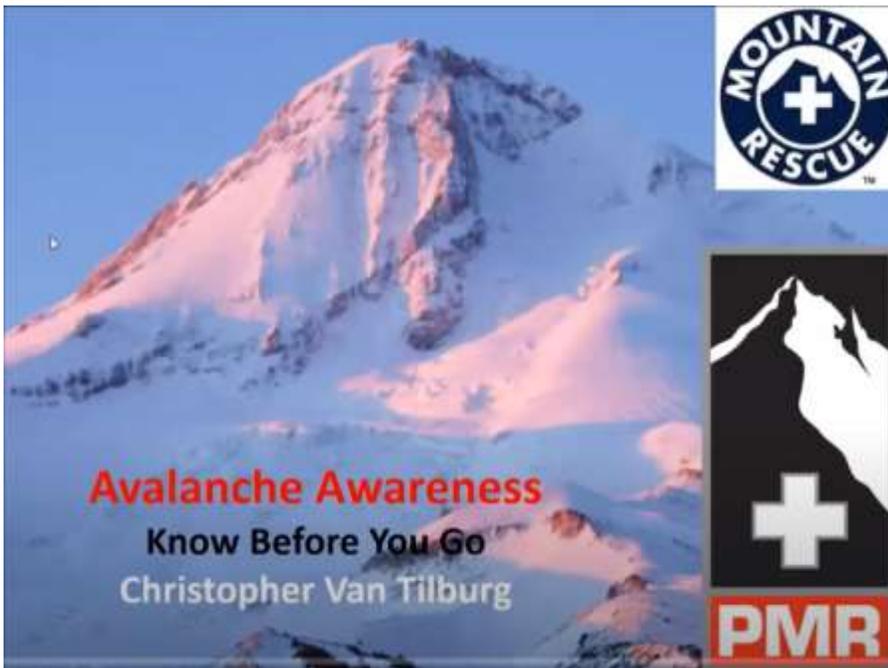
To start, the QRP (nominal 5W) G1M is an SDR-based HF transceiver that has relatively high receive power consumption at 0.5A and a challenging form factor for SOTA. It offers 80m, 40m, 20m and 15m – no WARC bands. The first G1M that I received from Radioddity.com was DOA with an intermittent power connector and a failed speaker. The replacement G1M that was sent had even more sample defects. SSB transmission without modulation generated a signal with significant noise so that any speech was unintelligible. Also, the tuning encoder had hysteresis and the ringing of the 800Hz CW filter drowned out CW signals that could be clearly heard in SSB mode (but the rig doesn't allow for turning off the CW filter).

I have read numerous reviews of the G1M. Many problems with the G1M have been described over more than a year while Xiegu has apparently made only a few improvements in design and manufacturing. It seems as if Xiegu is using customers for quality control for the G1M. A silly way to run a business – who can be happy? I suppose one might consider a G1M purchase to be a bit of a lottery ticket to get a unit that performs – however, it appears it would be a poor choice for SOTA.

11.6 Billion miles on 18 Watts

The Voyager 2 X-band transmitter output power is only 18W...but it does have a good antenna, as its 3.7-meter high gain antenna at 8.4GHz provides 48dB of gain. But you really do need to point it the right direction...

<https://scitechdaily.com/nasa-contacts-voyager-2-11-6-billion-miles-from-earth-using-upgraded-deep-space-station/>



Backcountry Safety in Avalanche Terrain with Portland Mountain Rescue

<https://www.youtube.com/watch?v=PixlO5hYRGs>



Northwest Avalanche Center classes:

<https://nwac.us/backcountry-basics/>

<https://nwac.us/laying-tracks/>



<https://www.coavalanche.org/>

This PNW SOTA Newsletter focuses on Summits on the Air activity for British Columbia, Idaho, Oregon, Montana and Washington. Your ideas for this newsletter are welcome. Thanks to the following for their contributions to this newsletter: Darryl-WW7D, Ken-KI7VEM, Amy-AG7GP and Paul-K6PVZ.

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This newsletter is brought to you by the Oregon Association Manager, Etienne-K7ATN. Find back issues here:

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