

# Pacific Northwest SOTA Newsletter

April–May–June 2022

Photo by some activator, somewhere in the PNW

## Upcoming Events –

[Willamette Valley S2S Party April 16](#) – A chance to make a bunch of S2S contacts around NW Oregon/SW Washington.

[SeaPac Hamfest, Seaside, Oregon June 3-5](#) – Tim-N7KOM will present on SOTA and mountaineering.

[ARRL June VHF Contest, June 11-12](#) is for 50MHz and up and allows activators to use just a HT from many summits.

Two-meter FM can work (but don't hog the calling frequency 146.52) and be prepared to give out contacts on 70cm as well on 446.00. The exchange is grid square. Starts at 1800z.

[ARRL Field Day June 25-26](#) – Consider a SOTA-compliant operation with QRP + battery/solar + from a SOTA summit!

[W7O Campout July 8-11](#) – This first ever W7O Campout will be at the Hyatt Lake Recreational Area east of Ashland, Oregon. There are many summits near the Campout location and many you may want to take a detour to go to, such as those around Crater Lake NP. The link has details and info on reservations. I hope to see you all there! de Amy-AG7GP

<http://www.pnwsota.org/content/1st-annual-w7o-campout>

## A New SOTA Operator's Experience with the Xiegu G90 by Joseph-W3MBG



When I started participating in SOTA last summer, all I had to work with was a dual-band HT and a roll-up J-pole. I managed to activate a few successful summits thanks to some VHF S2S contacts and a good bit of luck and perseverance. However, as the summer came to an end, I had exhausted the potential VHF-only summits in the region and was dying to get set up on HF. On a limited budget, the Xiegu G90 seemed like my best option. There are some definite compromises, but the inclusion of a built-in ATU and 20W max output power makes it an attractive choice for portable operation.

When the G90 arrived, I was surprised by the heft of it. Weighing in around a kilogram it's a little on the heavy side for SOTA, but it

feels well-built and rugged. This was unexpected from such an inexpensive Chinese radio. The screen is surprisingly clear and bright, and despite its diminutive size, is very readable. The knobs are sturdy and responsive and the buttons have a nice feel to them. The small face of the radio makes accessing the buttons a little tricky with gloves on, but it's workable. I've been using the G90 primarily with a 41' end-fed random-wire antenna and 9:1 unun for portable ops, and with this setup the tuner preforms flawlessly; it achieves a solid 1:1 match on 10m to 80m, and does it quickly. This setup makes it quick and easy to do an activation on 20 and 40m. Switching bands is just a press of the tune button.

The manual specifies a maximum TX current draw of 8A, but in practice I measured it at less than 5A at max power. RX current draw is around 0.6A. This means that the G90 will run well on any size 13.8V Bioenno pack, and even run fine on the cheap Talentcell 12V packs from amazon.com. It also has a huge input voltage range, from 10.5 - 16.5V, allowing a wide range of portable power options. I have run the G90 at 5W output on a Talentcell pack down to 9.5V without any noticeable trouble. A Bioenno 3Ah 13.8V pack is more than enough for an HF activation with the G90.

My first hike-in activation with the G90 was Beacon Rock (W7W/LC-163), a short hike up the basalt column to a small activation zone near the top. There was no room to set up the end-fed antenna as a sloper so I opted to wind it around my mast and use it vertically. This configuration worked surprisingly well. The tuner had no trouble achieving a 1:1 match on 20 and 40m and I made several contacts to the Eastern US on 10W that day.

My second hike in with the G90 was Wind Mountain (W7W/LC-146). Another short hike, but significant elevation gain. There was some snow on the ground, and I found myself struggling up the hill and wishing I had less weight to carry. The G90 performed well at the summit though. It was cold and windy and I was grateful for the ease of switching bands once I got set up.

The G90 receives well as far as I can tell. Although I haven't been able to do any direct comparisons to other rigs, I haven't noticed any trouble receiving and can often copy signals that only hit S1 on the highest peaks. Due to the SDR architecture the receive filtering is very sharp. The audio does seem a little harsh to my ear, which is something other reviewers have noted as well, but for the price it's not a deal-breaker. The built in SWR scanner is a nice touch, and seems to generally agree with the external SWR meter I used for testing. The only thing I really think is missing from the G90 is a CW and voice memory keyer. As a new operator I'm only mildly bothered by this omission, but it might be a more serious issue for seasoned operators.

All in all, the G90 is not a perfect SOTA radio, due primarily to its weight, but it is a great budget portable rig and will work just fine. If you are like me and need one rig to do it all on a budget, I think you'd be hard pressed to do better than the G90. Down the line, I will likely learn CW and build myself a little QRP rig for taking on those challenging summits where weight is paramount, but for now I'm quite happy with the G90 and willing to haul the weight in exchange for the extra power. 73 and see you on the bands, Joseph-W3MBG

[New Travel Restrictions in Columbia River Gorge](#) – Timed entry permits will be required along the “Oregon waterfall corridor” of the scenic Columbia River Gorge Highway between May 24 and September 5, 2022.

[Park Legally for First Responder Access at PNW Trailheads](#) – news story.

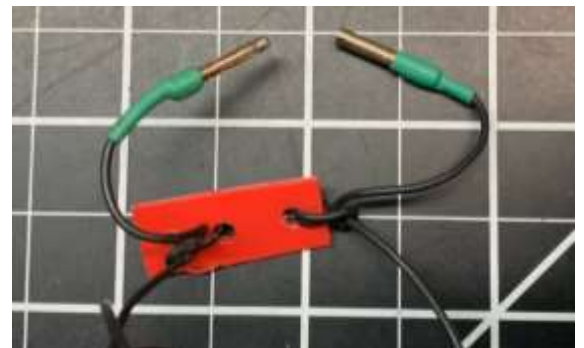
[Dog Mountain \(WA\) Trail System Permits](#) – Required weekends April 23 to June 12, plus Memorial Day, May 30, 2022.

### Popular HF Antennas for SOTA by Josh-WU7H



Having been around SOTA for a few years now, I've learned a lot about deploying HF antennas in the field. First and foremost, you do not need to buy an antenna. The very best HF field antennas are inexpensive and simple to construct. It is educational and fun to build different types of wire antennas and experiment with them on summits. All of the commercially produced HF antenna systems I have seen deployed for SOTA are expensive, heavy, overly complex, and don't perform as well as simple resonant wire antennas that you can build at home for a few dollars.

Which brings us to the venerable ½ wave dipole. I consider this the gold standard for a SOTA antenna. The dipole is dead simple to construct, requires no tuner, and is very efficient. Use a cheap 'squid pole' telescopic fiberglass pole to elevate the center, and tie the ends off to whatever is available with the broadside in your direction of interest. Add some links if you want more bands – my favorite linked dipole has two sets of links giving me 20/30/40 meters. Including 40 meters in your available antennas means working chasers within our PNW region – these are folks you may meet in person someday!



You can use a length of small coax (RG-174) to feed it. Links used for RC cars can be found cheap on amazon.com. The only downside is that changing bands requires you to set the links – this can get tiresome if you are chasing S2S contacts on a busy day! But you will be **heard** and **also hear well** with this antenna.

Next up is the end fed ½ wave (EFHW). The EFHW is a great performer, but more complicated to construct. The EFHW has a very high impedance at the end (1000's of Ohms) and therefore requires a 49:1 impedance matching network. An EFHW cut for 40 meters can also work on 20 and 10 meters. Add a link for 30 meters and you have the perfect antenna to go with an MTR3B or other 3 band QRP rig. A properly constructed EFHW does not require a tuner, but note the SWR may vary a bit each time you erect it on a different summit. Since the EFHW is fed at the end, no feedline is required and you only need to support one end or the middle if going for an inverted Vee configuration. These are both big advantages over a dipole, making the EFHW one of the lightest and most popular antennas for SOTA activations. One serious advantage of the EFHW (or EFRW, below) is SAFETY. These one-wire antennas are quick to deploy, easy to use, and fast to take down – when weather conditions are poor, avoiding “tangulation” and jumpers for different bands can be a huge benefit.



Now we will talk about some compromised antennas, and why you might occasionally use them. Similar to the EFHW is the end fed random wire (EFRW). Don't let the word 'random' fool you - the length of the wire matters greatly. You must avoid lengths that are close to a ½ wavelength on any band you wish to use the antenna on. The most popular EFRW is a 41' radiator with 17' counterpoise. This antenna works well on 40 through 10, but requires a tuner on all bands. If you have an Elecraft T1, KX2 or KX3, or a Xiegu G90 or x6100 with a built-in automatic antenna tuner, you can connect the radiator and counterpoise directly to the radio via a BNC binding post. Less capable tuners may require a 9:1 unun. This antenna is a decent performer and you have all the bands at the press of a button. This would be a great choice for S2S events where fast band changes are crucial, making a linked antenna impractical. Another good use case is operating from inside of a tent or bothy bag in poor weather.

The last antenna I will discuss is the base-loaded vertical whip – something like Elecraft's AX1. These are highly compromised and I would avoid these for most SOTA activations. That said, this kind of antenna is incredibly small and lightweight, and can be deployed very quickly. A good use case would be a summit where you do not have room for a wire antenna. If band conditions are good you can make contacts with this type of antenna, but be aware that many regular chasers may not be able to hear you, especially using SSB. SOTA activations require chasers, so it is in our best interest to use efficient antennas and give our chasers a good shot at working us.



To be successful in building the antennas described here, you'll need an SWR/power meter, Antenna Analyzer or Vector Network Analyzer (VNA). These are fun tools to understand what your radio and antenna are doing for you. These are among the first instruments beyond a simple multimeter that hams will use regularly.

←← Insulators? Don't need 'em! Tie cord (or bungee) directly to the wire.

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- Reminder** – If you expect to activate more than one summit using CW in a day and want RBN to spot you, use wildcards for the Summit Reference alert: “W7O/CN-XXX”, then spot actual summit on the air–this should prevent incorrect spots.
- Reminder** – If you are “testing” SMS or Iridium spotting, please use a nonsense summit, QRG and mode. Like 7.000 Data.
- Reminder** – Activators **and** Chasers for SOTA need to operate within their own privldges. See the [SOTA General Rules](#).
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### Low Budget Front Cover for Icom IC 705 – by Péter-AF7GL



Ten years ago I was lucky to find a very good case for my Yaesu FT-857. That still serves its purpose very well. However, I was not able to find a suitable lightweight case for the IC-705 yet. You want to protect the touchscreen and the knobs. To start, I wrapped it into a scarf and placed it on the very top in my backpack.

But I came up with a better solution. I have good quality packaging foam from dumpster dives or from saved packaging materials from received packages. These are not the polystyrene ones. It is firm and does not break apart. It also has enough depth to cover the knobs. So I just cut holes into it for the knobs - which will hold it in place – and for the buttons.

Put a microfiber cloth over the touchscreen. And secured it with rubber bands saved from vegetable bundles bought in supermarkets. Simple is that! Péter-AF7GL

### [Working DX with a Piece of Aluminum Foil](#) by Manuel-HB9DQM (of SOTA Atlas!) – from the SOTA Reflector

This one is a MacGyver for the Ages!

### PNW Winter Activity Event by Bill-K7WXW

During a conversation about PNW weather on the Slack PDX channel, someone wondered whether it was time for another *get-out-and-SOTA-Saturday*. After a brief search to see what else was going on in March, an email exchange with Greg-KJ7EHA about the Willamette Valley S2S Party April 16<sup>th</sup>, and settling on a date, the PNW Winter S2S Party was born.

This was a minimum-structure-maximum-fun affair: we announced the event on the usual collection of email lists and SOTA forums, then asked ops to post an alert with *PNW Winter S2S* in the comments and send an email to let us know they were going out. The week before the event we sent out Kathleen-W7KLLK's spreadsheet with op names, call signs, and summits and a reminder about alerting. While we set a starting time of 1100PDT/1800Z, we also encouraged early starts.

The event attracted twenty-eight ops from Washington, Idaho, Utah, Montana, Oregon, British Columbia, and California (we have an expansive view of the PNW). The weather across the region was, shall we say, *variable* with rain, sleet, snow, wind, fog, and sun (often all on the same summit) being reported. We had at least four first-time SOTA operators, which is awesome, along with the usual collection of PNW regulars, with summits reached by hiking, snowshoeing, skiing, and driving.

From the log: There were 715 QSOs and 282 S2S contacts made, with DX contacts in Japan, Belgium, Germany, France, Germany and Sweden. Based on the count of local HF QSOs, the decision to make 40m the "regional" S2S band for the event worked out well. Other interesting bits from the log: Bruce-WY7N scored 12 Japanese S2S, Anne-K7AHR managed 82 QSOs and 31 S2S contacts, five other ops had more than 50 QSOs, and Bill-WJ7WJ and Tyler-ND7Y topped ninety percent in the S2S/QSO count.

By the numbers, the organizational effort involved (low!), and the after-event email -- and in spite of the weather – the PNW Winter S2S was a success. Thanks to everyone who posted an alert and got out on a hill, along with the chasers, for a very fun SOTA Saturday. Hope to hear you from another summit soon!

73, Bill-K7WXW

Check out the photos (and videos) of some of the activators from the PNW Winter S2S on the next page!



Phil-KG7KKE, Mores Mountain, Idaho



Darryl-WW7D on Hicks Butte, Washington



Bill-WJ7WJ on Gobblers Knob, Oregon



Troy-KF7SEY on Green Mountain, Oregon (click for video)



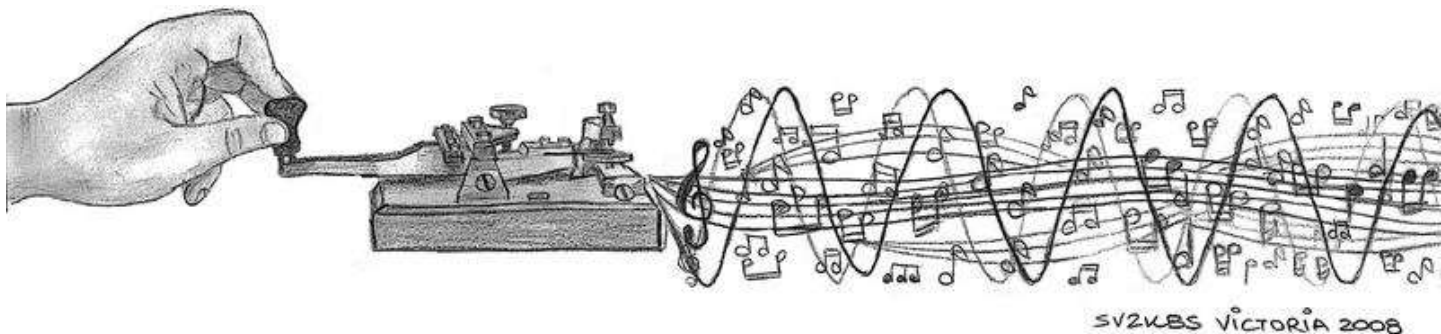
Bill-K7WXW on Nicolai Mountain, Oregon



Tim-N7KOM on Tom Dick Harry, Oregon (click for video)



# ARTS PAGE — A contribution by Victoria-SV2KBS who loves CW and sees it as music...



## The Great W4G Campout – Poetry by Elizabeth Burns, K1LIZ sk, who passed in February 2022.

The SOTA Summits Campout, this is going to be fun,  
Backpacks, radios, and antennas are ready, everything is done.  
The campout begins, ready to activate we start,  
At the campground, from our SOTA friends we do part.

We drove down a rocky road with a really deep rut.  
Prayed a tire would not rupture, and we would get stuck.  
Mile after mile, we bounced so much it made my teeth ache,  
Only to find in the middle of nowhere a locked gate.

With an activator's determination, we never accept defeat,  
For this mountain was going to become a SOTA complete.  
Approaching the mountain from the other side did cause a two-hour delay,  
Then a mile and one-half hike, it's just another SOTA activators day.

We bushwhacked through briars, and crawled under a fallen tree,  
Crawled through rhododendron so thick you could not see.  
Stepped over bear poo, and other things, what they were I don't know,  
To ascend to the summit, thankful there wasn't any snow.

Sit on a rock, or a log, or anything you can find,  
For calling CQ and hoping for chasers is the only thing on your mind.  
That magic fourth chaser I always want to hug,  
But then I realize crawling up my leg is a big nasty bug.

Another successful activation, as we get ready to hike down,  
With a final check we make sure we leave nothing on the ground.  
One final pause to just enjoy the mountain for the air is so clear,  
And to the chasers we send a silent thank you and a little cheer.

And off the mountain hike we know will be slow,  
For the next summit awaits and to it we know we will go.  
Up the next mountain another summit is near,  
Back on with the boots for a two-mile hike is here.

Up it seems like a million uneven rock steps, that make my muscles scream,  
Up sloping rocks, and a dirt bank, and even across a stream.  
At the ridge crest there is a sign that tells us which path to take,  
Only .6 to go, this will be a piece of cake.

Another summit to activate, up here the trees are not tall,  
CQ, CQ SOTA, wait an S2S is answering my call.  
Activating three summits, what a great day it has been,  
But tomorrow we have two more scheduled, so we will do it all over again.

The camping event comes to a close with Dean's chili and cornbread,  
We all sit around the campfire and laugh, even though we feel half-dead.  
As the sunset brings to an end the day's light,  
Ron's campfire peach cobbler finishes the night.

A check of the map shows many summits are left behind,  
So many summits to activate and so little time.  
Sore, bruised, and scratched, but smiling from ear to ear,  
I can't wait for the SOTA campout next year.

## And from our videophile, Tim-N7KOM, here's MORE of CW as music!



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