



# Connected



The Newsletter of the Multnomah County Amateur Radio Emergency Services

September 2019

## Meetings

### Multnomah County ARES

Every 4<sup>th</sup> Thursday  
7:00 P.M.

Informal Q&A begins 6:15  
Portland Fire & Rescue CTR  
4800 NE 122<sup>nd</sup> Avenue, Portland  
<http://www.multnomahares.org/>

### PARC Meeting

Every 2<sup>nd</sup> Monday  
7:30 P.M.

4415 NE 87<sup>th</sup> Ave., Portland  
<http://www.w7lt.org/>

### HARC Meeting

Every 3<sup>rd</sup> Thursday  
Mount Hood Comm. College  
Room 1001

<http://www.wb7qiw.org/>

## Nets

### Multnomah Co. ARES Net

Wednesdays at 7:00 P.M.  
146.84 (no Tone)

### District 1 ARES Net

Daily at 7:30 P.M.  
147.320 (PL Tone 100.0)

### Digital Modes Training Net

1<sup>st</sup> Tuesday at 8:00 P.M.  
440.400 (PL Tone 123.0)



## 2019 HF Campout

### Upcoming Events

#### Upcoming Events:

Thursday, September 26—  
General Meeting: “Keeping your  
cool in a crisis” Carrie K7CAC

Saturday October 12: Fall  
statewide ARES Simulated  
Emergency Test (SET) details  
coming soon.

**PLEASE SAVE THE DATE**

### HF Campout Recap

By Adam KF7LJH

The ARES 2019 HF campout was a huge success this year. The group areas at Pine Point Campground up near Timothy Lake on Mt. Hood are amazing and seem tailor made for

our ham radio gatherings. Eli was diligent last year (last year!) in reserving this spot and did the lion’s share of event organizing along with Deb. Thank you both for making it such a fun time and making it happen. While it threatened, it never actually rained until the very end of our teardown on Sunday. The weather was great overall, no jacket needed during the day and the nights and mornings weren’t warm but didn’t quite qualify as chilly. The Saturday night feast was great and there were more cookies there than I’ve ever seen in one place. There were about 14 cookies per person laid out there on the table. It was like a dream made real.

Ralph set up a fantastic futuristic looking station with two wire antennas



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and the coolest portable battery-backed solar power setup ever. It's like he'd come back from the future to ham out with us. Part of that is the swoopy, sassy canopy he's purchased. He made a good number of contacts with his station, swoopy or no.

Part of the weekend adventure was learning how to use the new Air Boss antenna line launcher that was purchased for the trailer. And an adventure it was. The Air Boss is an air-compression cannon that launches a knuckle-sized fishing weight with a fine but strong line attached. The first attempt launched the weight about 15 feet in the air, a little above our heads. The second launched it into orbit somewhere, breaking the line in the process. We think it landed in Jackson County somewhere. About the 8th try, we finally got the line in the tree just right. Then we had to do the other side. But armed with all this experience, it only took three tries to get the line set for the other side of the wire dipole. But that effort was worth it, as it ended up close to 40' up in a flat orientation. That could have been the best wire field antenna deployment the ARES Trailers has had to use yet.

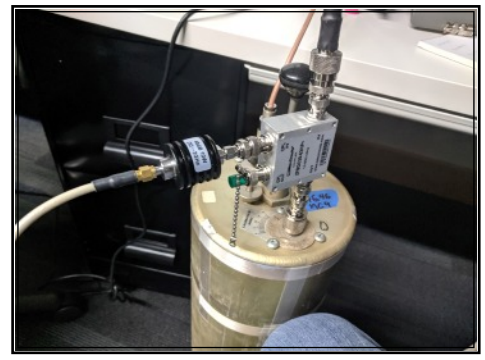
And that effort was doubly rewarded with the great propagation and jumping airwaves we had that day.

There were three contests going that weekend including the Texas QSO party and the Worked All Europe contest. Crazy, crazy accents coming out of the HF radio all day long between those two going. Plus the fall VHF contest was going on.

The trailer made some great voice contacts including Costa Rica, Croatia

and Argentina. Plus a bunch of Texans. Tons of Texans. 6m was a bust, unfortunately. But 80m-20m were super busy. Adam didn't kill anyone with the Air Boss. We got some DX contacts. Plus great food and campfires. And Carrie had this fantastic no-carb beverage. It was a great campout again this year without a doubt. You should plan to come

## PBEM Radio Room Project By Bruce AA7PB



Portland Bureau of Emergency Management (PBEM) Emergency Coordination Center (ECC) Radio Room has historically had two Operational problems:

- (1) When two ECC radios are operated at the same time with one on MC-8 and one on MC-9 they reduce each other's receive sensitivity. This problem is often referred to as "desensing".
- (2) The radio that uses MC-8 sometimes also sometimes receives voice transmissions from two Portland-area repeaters. This is referred to as a third-order inter-modulation because it is based on the second harmonic of one repeater's

output mixing with the output of the other within the receiver of the MC-8 radio. This explanation was developed by Michael AE7XP, some months back. The desensing problem is primarily due to the fact that the VHF antennas on the roof of ECC are closely spaced horizontally with no vertical separation and secondarily because until recently MC-8 and MC-9 were only 40 KHz apart. Because PBEM doesn't expect to be able to relocate the antennas any time soon, we considered how band-pass filters might reduce the problem. To make this more feasible we worked with other MCARES members to reassign MC-9 to a frequency about 1 MHz below MC-8. Once this change was approved we purchased a used cavity filter and tuned it to MC-8. We then worked with Aaron Fox of PBEM to test it and were pleased that the desensing problem had been eliminated. We then tested for the inter-modulation problem and it was also eliminated.

So, what is a cavity filter? It is an adjustable rod enclosed in a cylinder. An RF signal is routed by coax to a "Loop" at the top of the inner cylinder. The resulting electromagnetic waves propagate around the rod, which serves as a resonator, and are received by the second loop on the other side of the top of the cylinder. Signals with a wave length four times the length of the rod leave a coax connector at the top of the second loop with only about 1dB loss while signals of other wave lengths are greatly attenuated.

Thus the cavity is a very narrow band-pass filter. It is tuned by adjusting the length of the rod. Its



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selectivity can be changed by adjusting the angles of the loops relative to the rod. A different cavity filter configuration produces a notch filter instead of a band-pass filter.

We have since purchased another filter and tuned it to the new MC-9 frequency. Once again, the desense problem was largely eliminated. We are about to test another cavity filter tuned to MC-10 in the hopes that it will allow the Winlink Gateway on MC-10 to be accessed by a third ECC radio while the other radios in the radio room are transmitting.

Bruce Schafer, AA7PB  
Joe Hubert, WA7FWC



Campout Photo

## Additional Nets

### District 1 ARES Net:

Daily at 7:10 P.M.  
147.320 Mhz and 147.04  
Both with PL Tone 100

### NTTN:

Daily at 6:05 P.M.  
145.27, 145.43, 145.47  
146.80, 442.875, & 107.2

### Portland NET Net:

Sunday 8:00 P.M.  
147.040 PL tone 100.00

## Technician Classes

Hoodview ARC has scheduled Classes for Nov. 2<sup>nd</sup> and 9<sup>th</sup> at Mt. Hood Community College. Visit [www.wb7qui](http://www.wb7qui) for details and to sign up.



Campout Photo

**NOTE: Please see the following page for an important Flyer regarding a Women's Ham radio 'Technician' (beginner) Class for women!**



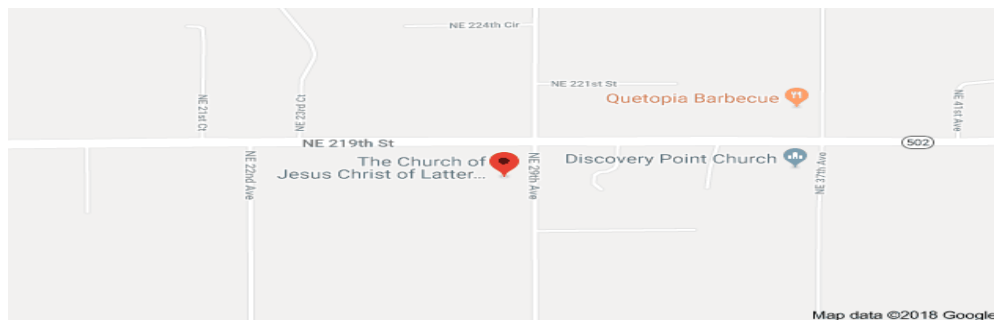
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Clark County ARC:

**Women's Ham Radio 'Technician' (beginner) Class**  
*This class is taught by women, for women!*

**Class location: LDS Meeting House**  
**21720 NE 29<sup>th</sup> Ave. Ridgefield, WA 98642-8681**



**2019 Schedule for 6 sessions October 10, 11, 12, 17, 18, 19**

Thursday October 10: 7 – 9 p.m.

Friday October 11: 7 – 9 p.m.

Saturday October 12 9a.m. – 1 p.m.

Thursday October 17: 7 – 9 p.m.

Friday October 18: 7 – 9 p.m.

Saturday October 19: 9.a.m. – noon-ish  
(includes review and license exam)

We will use The ARRL Ham Radio License Manual, 4th ed.

Level 1 Technician, 2018

By Ward Silver

To register for class, purchase a textbook, or for more information  
contact:

Barbara Yasson AC7UH (that's her ham radio call sign)

AC7UH@arrl.net or 360-574-1152

The class is free, the textbook costs \$27, the license exam costs \$15

