W7DTA AMATEUR RADIO CLUB
Rogue Valley
SINCE 1936 — MEDFORD, OREGON

The Repeater

Volume 2018, Issue 2   **February 2018**

President's Letter

Greetings, all! I suppose you could say I am back in the saddle again. Please contribute to the club this year and help make it relevant and fun for all.

Thanks to Scott NA7OM for his two years of service as RVARC President for 2015-2017.

The club board held a productive meeting Tuesday January 2nd. We came up with a long list of possible programs, presentations, and activities. That list was emailed to all members with the hope of having feedback regarding those options. I encourage you to take the time and review them with YOUR interests in mind.

This year there seems to be a wide-open

The Repeater is the official newsletter of the Rogue Valley Amateur Radio Club, Inc. It is published 10 times a year—once per month excluding July and August.

Secretary's Report

The January meeting was held at the Red Cross building on January 4, 2018. Our new president Allan Taylor, K7GT, called meeting to order at 7:05pm.

Visitors who spoke up were Will Morgan from Talent, who is studying for his license, and Tom Miller, N7WQ, a longtime radioman, now from Grants Pass.

Lud, KB2EVN, passed around a photo of his friend's antique radio at a show in Pittsburg that featured a Harry and David pear in the display.

Darrell Barker, N7CZX, asked about the possibility of a dual-membership option with the CARE club (Cascade Amateur Radio Enthusiasts). Bob, K2GLO, made a motion to look into that, which was seconded by Dale, N7IXS. The motion passed unanimously.

President Allan Taylor, K7GT, discussed re-

President's Letter, Continued.

communication path with the board of our local 'other' club, CARE. Joseph W3JVC and Darrell N7CZX are anxious to work together on appropriate activities. Field Day in a combined way, as we did last year, is certain. Depending on their membership's response (and ours) there may be coordinated presentations with related activities.

A dual membership plan has been worked out with CARE. Details, along with their updated membership form, will be given at the February RVARC meeting.

When I attended their January meeting, a suggestion was made from the floor to be involved with this year's Pear Blossom Parade with a float. The expenses were moderate although surely time will be required to make up the float. As I was present, Joseph asked if RVARC would like to participate together with them. I made no commitments either way although personally it sounds somewhat out of character for our club. What do you think?

You may recall that Joseph W3JVC gave a talk on remote operating at our December meeting/dinner. He had internet connectivity issues at the Red Cross building so the demo was not complete. I was able to visit Joseph last month and see it working. The demands of high speed CW cause timing issues but the setup should work fine on ssb. Joseph also put out an idea for a possible working group locally to investigate putting together a remote station somewhere in the valley. If you have any ideas as to a good location with pre-existing facilities, please contact Joseph at jvclarke@gmail.com.

I am still fussing with station improvements but should be on the air in time for the ARRL DX CW contest mid-February and possibly the SSB version as well. Come and join the fun. These two, Field Day, and the two sessions of Sweepstakes are the premier con-

Secretary's Report

sults of the presentation planning meeting held at Tom's house on January 2. There was a long list of potential program topics for 2018 that may be provided in a separate document as we narrow them down to the most interesting and practical ones.

Darrell commented on Bruce Cook's (KG7TUO) home-brew barbed-wire antenna that worked quite well.

Bob Earl, KD6UIH, and Mike Bach, WB6FFC, suggested seeing about getting a solar power talk by the Home Power magazine folks.

Dan Farris, a new ham and member, asked about emergency preparedness by the club.

The meeting took a break at 7:30 and re-started at 8pm for the presentation.

John Armstrong, KF7UMK, and Pat Cunningham, KD7MPA, gave a presentation on mesh networking in the Rogue Valley on the 9cm ham band, using low-cost commercial wifi equipment. Custom firmware from the Amateur Radio Emergency Data Network (aredn.org) allowed the wifi routers to operate in the ham band and implement a dynamic mesh network topology. Services such as text-messaging, file-transfer, voice-over-IP, and video camera streams can be provided on this single-subnet private network. Around half a dozen nodes covering over 5 miles distance are currently operating here, and several more are planned. The goal is to have a regional high speed emergency communications data network, operable independent of grid power and the internet. Each node consumes about 5-10 watts and can operate on solar-charged batteries.

After questions, the meeting was adjourned at 9pm.

John Armstrong, KF7UMK, Secretary

AREDN—New User Experience

At the January club meeting John Armstrong, KF7UMK and Pat Cunningham, KD7MPA presented their use of 2.4 GHz WiFi equipment to build a network in the Rogue Valley. As a result of the presentation I decided to purchase a Ubiquiti Nano NSM2 radio and put it on the air.

The Ubiquiti products are readily found on Ebay and Amazon, and are inexpensive. The unit I bought was brand new and warrantied by the manufacturer. It came with the latest Ubiquiti AirOS 6.1.3 software (soon to be thrown away). The Nano is a compact all-in-one unit—radio and 11 dB antenna in a small outdoor enclosure. It is powered over the Ethernet cable, the power injector and supply came with the radio.

John provided me with instructions on how to reflash the unit with AREDN software. The current Ubiquiti units have a special boot mode (hold in reset button, keep held in, use third hand to turn on power, keep holding reset button for 10 seconds. This mode ignores any IP addressing you might have programmed and wakes up the unit on a fixed hard-wired IP address (192.168.1.20). I installed some TFTP GUI software that John recommended on a Windows 10 PC, and downloaded the latest Ham Radio AREDN software matching the type of radio I bought. Then I connected an Ethernet cable between the PC and the radio (doesn't matter if it's straight through or cross-over—both work), and reconfigured the PC networking to use a fixed hard-wired IP address in the 192.168.1.x subnetwork with an address that ends in anything except 0, 20, or 255. 20 is the address of the radio, so we don't want to use that, while 0 and 255 are broadcast addresses, we don't want to use those either.

Then I clicked the 'PUT' button on the TFTP program on the PC and selected the AREDN software I had downloaded to my PC. It worked first time. Then I reset my PC to dynamic IP addressing.

John gave me the SSID, Channel, and BW parameters for the AREDN software to work with the units in the Rogue Valley, and after some head scratching (googling) I found the default user/password for the AREDN software (root / hsmm) and changed the default password (the username can't be changed, it's always "root").

I mounted the unit on a temporary push up-mast, connected a shielded 25 foot Ethernet cable between the radio and the Power Injector, and another Ethernet cable from the POE injector to a computer.

The mast and radio were started at 15 feet height above the deck. I was able to hear John's node across the valley about 13 miles away, with moderate signal levels. As I raised my unit first to 20 feet, then to 25 feet, the signals from John's radio improved until they reached 100% link quality at 25 feet, and indicated 19.6 Megabits/second data rate. I also can hear some other nodes in the network as well.

Interestingly, going to 30 feet actually caused the signals to decrease slightly.

Navigating to the mesh status webpage on the radio I can see that several folks are running 'services' on computers that are attached to their node radios. I clicked on the

President's Letter, Continued.

tests of the season.

Please sign up now for LOTW and make sure your grid square info is in their system. Many are participating in a year-long grid chase. Medford, Grants Pass, Ashland and vicinity are in CN82.

Allan Taylor K7GT
RVARC President

AREDN—New User Experience, Continued

chat application at John's node and logged-in using my callsign. I was then able to read messages folks had left, and was able to leave my own messages announcing my new node.

I noticed that N7RBP has a video camera service on this node, and I was able to click on that and it brought up a new tab in my browser with a live video feed from his hamshack.

I am quite impressed with the AREDN software which seems pretty solid, and the ease with which I was able to bring up the node and use the network.

For Sale / Wanted

FOR SALE:

Cushcraft R9 All-Band vertical antenna. Covers 6 through 80 meters. Brand new, in unopened box from manufacturer.

Manufacturer's R9 web page:
http://www.cushcraftamateur.com/Product.php?productid=R-9

Be sure to see the YouTube video showing easy erecting by one person. Tilting base mount included. Ideal Field Day antenna. Fits a small lot easily. May be mast mounted. No ground radials required for low SWR. We'll schedule delivery within 24 hours of purchase in Jackson County.

Discounted price (Jackson County delivery included) $500.00 cash only (new price: $639.95.)

Contact: Bill Anderson, KU6Y.
(541) 857-6258

This Month's Programs

1. History of Radar

- **Program:** History of Radar, beginning from World War 2. Mike has access to the MIT Rad Lab journals dating from the time of the invention and industrialization of Radar, an incredible resource. Much of the technology was heavily classified during WW2, and declassified in later years.

- **Biography:** Mike Bach currently is an engineer at Scala/Kathrein systems working on antennas. Mike has a wide collection of interesting RF hardware, from HF to Microwave, including high power RF.

Programs Planned for 2018 (subject to change):

- **February**: History of Radar
- **March**: TBA
- **April**: FT8 & WSJT-X Presentation and Demonstration
- **May**: TBA
- **June**: TBA
- **September**: TBA
- **October**: TBA
- **November**: TBA
- **December**: TBA

February 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 • **RVARC Club Meeting**	2	3
4 • CP ERC Net	5 • CARE Net	6 • 2M SSB Net	7 • 2M SSB Net	8 • Rogue Hack Lab • ARES Net • Sis-Q ARC Net	9	10
11 • CP ERC Net	12 • CARE Net	13 • 2M SSB Net • CARE Meeting	14 • 2M SSB Net	15 • ARES Net • Sis-Q ARC Net	16	17
18 • CP ERC Net	19 • CARE Net	20 • 2M SSB Net	21 • 2M SSB Net • JCARES Meeting	22 • ARES Net • Sis-Q ARC Net	23	24
25 • CP ERC Net	26 • CARE Net	27 • 2M SSB Net	28 • 2M SSB Net			

Events

Meetings

- **RVARC** Thursday, February 1st — 7:00 PM Red Cross Building Medford.
- **Rogue Hack Lab** Thursday February 8th — 6:30 PM , Medford Library
- **CARE** Tuesday, February 13th — 6:30 PM —New Far East Restaurant
- **JCARES** Wednesday, February 21st — 6:00 PM —Jackson County Sheriff's Office on Crater Lake Highway

Nets

- **ARES** Thursdays 7:30 PM - K7JAX Mt. Baldy Repeater 146.840 (-) [PL 123.0]
- **CARE** Mondays 7:00 PM—. KB7SKB Jacksonville Repeater 147.100 (-) [PL 136.5], open, directed net, visitors welcome
- **2 Meter SSB** Tuesdays 7:00PM and Wednesdays 10:00 AM—144.200 USB
- **Central Point Emergency Radio Communications** Sundays 8:30 PM—— KB7QMV Medford Repeater 145.410 (-) [PL none]. Move to simplex net on 147.585 MHz when finished. Directed net.
- **Siskiyou County ARC** Thursdays 7:00 PM—Net K6SIS Repeater 146.79 (-) [PL 100.0]

RVARC Membership

RVARC membership dues run from January 1 through December 31. Please bring cash or a check payable to RVARC to a club meeting, or mail (checks only) to:

> RVARC Membership
> c/o 1940 Stevens Rd.
> Eagle Point OR 97524-6523

Regular Member:	$20.00
Senior Member (62 and over):	$15.00
Family Member:	$20.00
Student Member:	$10.00

For Sale / Wanted

Be sure to visit our club's Sell / Swap webpage for more items.

http://w7dta.org/sellswap/

2018 Amateur Radio Examinations

In the Rogue Valley, amateur radio exams are provided by the RVARC and the SOARC. New exam participants need to provide identification, while upgrading amateurs need to **provide a copy of their current license** as well as show identification. The exam fee for 2017 remains $15.00. All license candidates must provide a picture ID. Upgrading amateurs must also provide a photocopy of their current license to send in with their application. To search for other exam locations, see:

> http://www.arrl.org/arrlvec/examsearch.phtml or our club webpage: http://w7dta.org

Medford—Phoenix, OR
Time: Saturdays, Registration 8:30 AM. Exam session at 9:00 AM. Walk-ins welcome.
Location: Fire District 5 HQ. 5811 South Pacific Highway, Phoenix, Oregon 97535
Dates 2018:   Feb 24   Jun 30   Oct 27

Contact: Don Bennett, Email: kg7bp@rfwarrior.com Phone: (541) 973-3625

Grants Pass
Time: Fridays Registration 6:00 PM. Exam session at 6:30 PM. Walk-ins welcome.
Location: Fruitdale Grange. 1440 Parkdale Dr., Grants Pass OR 97527-5288
Dates 2018:   Feb 16   May 18   Aug 17   Nov 16
Contact: John Stubbe, K7VSU, email: jstubbe7@gmail.com Phone: (541) 218-2244

Roseburg, Bend, Redding, Brookings, Crescent City — Please see our club webpage, http://w7dta.org for updates as we receive schedules for these cities.

Next Club Meeting
Thursday February 1, 2018, 7:00 PM
Red Cross Building, 60 Hawthorne St., Medford, OR
Across from Hawthorne Park

Program: History of Radar