



The Repeater

Next Club Meeting

Thursday October 5, 2017,
7:00 PM

Red Cross Building,
60 Hawthorne St., Medford, OR
Across from Hawthorne Park

Program: American Woodpecker

Volume 2017, Issue 10

October 2017

Scott Cummings	NA7OM	kd7ehb@yahoo.com	President
Mike Bach	WB6FFC (541) 830-3346	eaglepoint.or@juno.com	Vice President
Bob Deuel	K2GLO (541) 482-8752	k2glo@ikasystems.com	Treasurer
Allan Taylor	K7GT (541) 855-2054	k7gt@arri.net	Secretary
Tom McDermott	N5EG (541) 734-4675	n5eg@tapr.org	Newsletter & Membership
Club Web Page:		http://w7dta.org	

Club Notes

We will be having the annual election of club officers at the October meeting. If you are interested in serving as an officer, please send an email to the newsletter editor or any officer (addresses right above in the mast-head) if. This is a great opportunity to shape the club in terms of your interests, voicing your opinion on what types of programs you would like, and what activities the club should engage in over the year.

The club swapmeet was held the end of August, and turnout was good. The weather cooperated. I arrived about 30 minutes before the start and several boxes of radios had already been brought and sold—never even got the chance to see what was in the box!

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Secretary's Report

Because the September meeting (held at the end of August) was the club swapmeet, there was no business conducted and thus there are no minutes.

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.

Club Notes, Continued.

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Scott will be giving the October program.

We will try to schedule some more “How-To” programs in the future. Your editor no longer has access to a laptop to make presentations, so were not sure when and what the programs will be.

The 2017 ARRL/TAPR Digital Communications Conference was held last week in St. Louis. There’s a summary later in this issue, and there will be a brief summary at the club meeting. Lots of interesting things—especially Citizen Science related to the recent Eclipse.

Secretary’s Report, Continued.

This Month's Programs

1. Swap Meet

- **Program:** - American Woodpecker (Over the Horizon Radar). This is not a program on ornithology, but rather radio over-the-horizon radar. During the 1980's the Soviet HF radar was nicknamed 'The Woodpecker' due to the sound it made on a single sideband receiver. It was loud, it was obnoxious, it aggravated many hams.
- **Biography:** Scott, NA7OM, is club president for 2016 and 2017. He will be retiring from that position at the end of this year.

Programs Planned for 2017 (subject to change):

- **November:** TBA
- **December:** TBA

RVARC Swapmeet, 2017



PSK Mode Frequencies

From the PODXS 070 Website:

Common PSK frequencies (usually USB)

Band	Frequency kHz
160M	1807 (USA)
	1838 (Europe)
80M	3580
40M	7070 (most popular)
	7040 (Europe)
	7028 (Japan)
30M	10138-10142
20M	14070
17M	18100
15M	21070
12M	24920
10M	28120
6M	50290 (USA)
	50250 (Europe)

ARRL/TAPR DCC 2017

The 37th ARRL / TAPR Digital Communications (DCC) Conference was held September 15, 16, and 17 in St. Louis, MO.

On Friday there was one track—just presentation papers, while on Saturday there were parallel presentation and tutorial tracks. The tutorial tracks centered on digital voice—HF and multiple VHF/UHF ones. The session on Yaesu System Fusion was popular enough that an additional session was added later in the day on Saturday.

My notes on the most significant of the main papers:

Jon N0WL talked about keeping an Engineer's Notebook on the cloud. During the talk he demonstrated his QRP tunable Mag Loop antenna using a homebrew motorized capacitor. He claimed it could handle 35kv of RF using a material called Dura Lar—which is inexpensive and available from art supply stores. The 5 mil think matte version is what he used as the insulator—it has high dielectric constant thus resulting in high capacitance.

Chris K9EQ talked about Yaesu system Fusion. During his talk he mentioned there is a free website called Repeater-Book.com that is more current than the ARRL repeater materials.

Steve N5AC from Flex Radio talked about noise in SDR radios, and mentioned the DogParkSDR package that provides a native MAC client for Flex Radios.

The FaradayRF.com open source 900 MHz amateur radio project was discussed. I didn't note the author's name, and can't find it in the program. The radio provides 500 Kb/s at 400 milliwatts. The webpage provides details on the project and a previous balloon tracking project.

Bruce K6BP talked about recent progress in

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new low-bit-rate voice codes which perform in his opinion significantly better in many regards than patent-encumbered codecs presently being used in some amateur projects. Bruce is a big proponent of open-source projects, and has objections to inclusion of closed/patented Intellectual Property (IP) in amateur efforts.

Bruce mentioned the use of libwebsocket (Linux library) to provide access to remote software since by default the HTTP port is open on all home router/firewalls and thus avoids the problem of having to manually open ports to enable a mode. Bruce is the author of numerous textbooks on Linux.

One of the speakers had to cancel due to illness, and a new "Lightning Talks" session was added in place. This consisted of 6 papers, each with a hard 5-minute / 3 slides limit. The idea is to present current work that may not yet be ready for written publication or presentation, are in-process efforts, ideas for future work, and items of general interest. This session was announced Friday morning for Friday 1:00 PM start, there were more than 6 papers proposed, so the program committee had to narrow down the list. They were all good presentations, and the audience voted to have two lightning talks sessions next year. Those will be announced ahead of time next year.

Dave KV0S presented on the development of the FPGA downloader tools for the OpenHPSDR project. These tools allow updating the FPGA image on OpenHPSDR (and AN-AN) radios. He has migrated all the tools to the GO language because it is available for Win/Linux/Mac/ARM/BSD systems, it includes PCAP, UDP and HTTP packages, and has static binaries. Static binaries means that one can build a complete program as a single file and deploy it without the usual hassle of external library management. GO does not have a GUI, so he built a mini-server into GO, once you start his

program you open your web browser and point it to the local address his program advises, this provides the GUI.

Mark KD0QYN presented a 9600 baud packet modem built on a Raspberry Pi using a Teensy 3.6 microcontroller to do the DSP. He has built a R-Pi 'hat' (a standard form factor plug-on module) that does the PTT and audio interfacing and holds the Teensy module (which is really small).

Saturday afternoon consisted of several presentations on Citizen Science in the form of data recordings and analysis of propagations during the 2017 Solar Eclipse. Dr. Nathaniel Frissel N2NAF brought 4 of his ham grad students from NJIT (New Jersey Institute of Technology, a public University in Newark, NJ) to present how they collected HF spectrum recordings during the eclipse.

They also collected extensive data from the Reverse Beacon Network (RBN) which automatically captures CW stations and logs them, PSKReporter, which does the same for PSK stations, WSPRNet, which does this for WSPR (Weak Signal Propagation Reporting) stations, and from various logs.

They analyzed some of the data afterwards and presented the results graphically using some interesting data visualization tools. Due to the very recent eclipse, all the analysis is very preliminary with papers and publications to come as they have more time to thoroughly analyze and check the data. Nate has a PhD in Ionospheric Science.

John, N8UR then discussed how he put together various free software tools to build a system that captures 4 amateur bands simultaneously on OpenHPSDR and 6 on Red Pitaya hardware. It uses Gnuradio, the OpenHPSDR gnuradio drivers (written by the RVARC newsletter editor) and the MIT-Haystack HDF5 file system drivers. He captured 1 terabyte of data during the event.

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Friday and Saturday at 4:00 PM is 'Play time' where folks demonstrate various interesting packet radio communications, computer, and commercial equipment. Yaesu bought a System Fusion repeater, with all the covers removed.

The keynote speech Saturday was given by myself, titled "Ham Radio, the Best 1,000 Hobbies you can Undertake". It was somewhat humorous and detailed look at 3 key technologies, how they will impact amateur radio, and what folks should do about it.

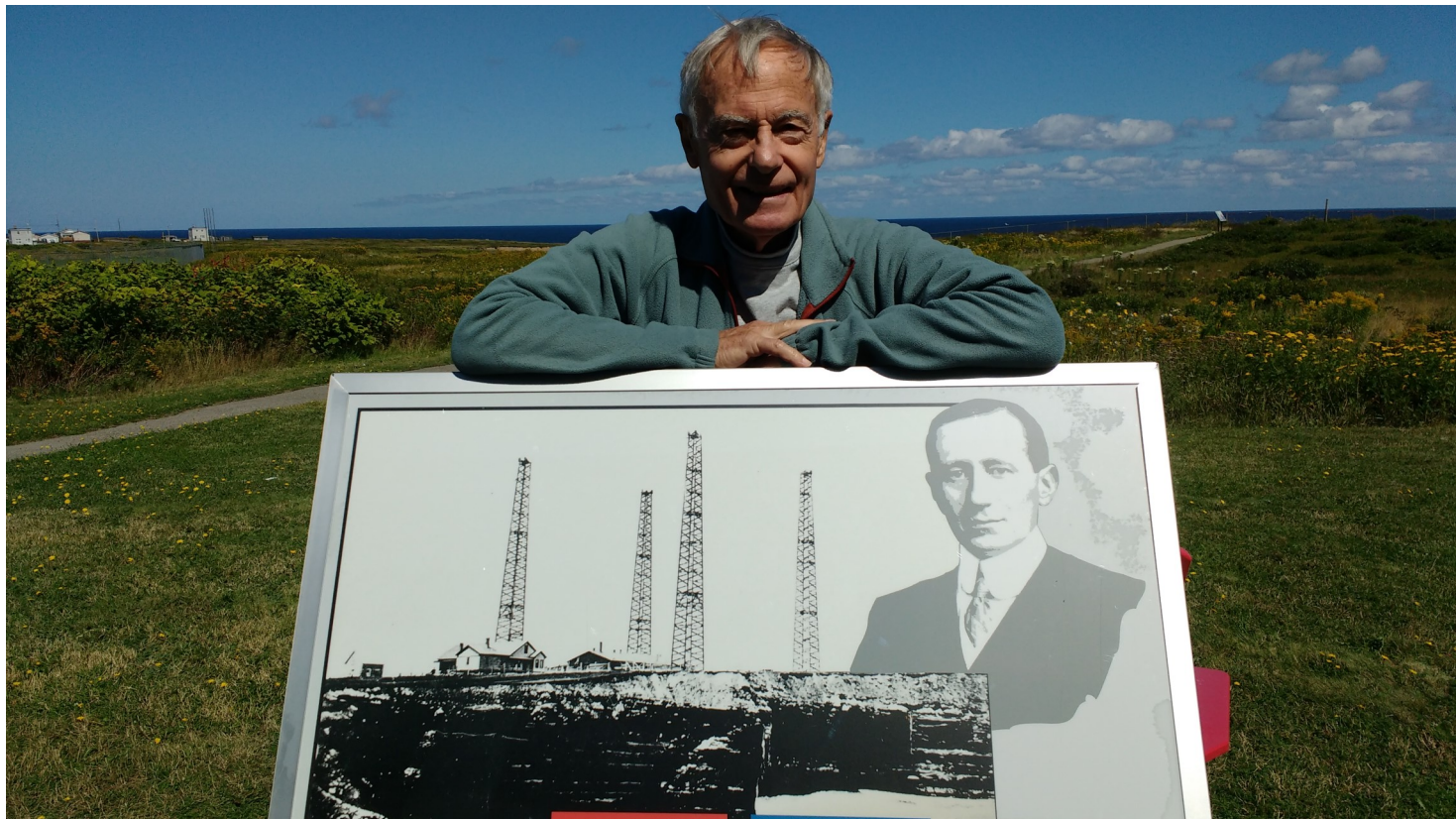
The 4-hour Sunday seminar was given by Gerry Creager N5JXS, a meteorologist at the National Severe Storms Laboratory (NSSL) at Oklahoma University in Norman, OK.

Gerry discussed the National Weather Service (NWS) requirements for home weather stations, methods to capture, collect, and network weather data, and various interesting physical effects that can be measured.

The 2018 DCC was announced, it will be held in Albuquerque, NM this same weekend in September (I can't find my notes where I wrote down the exact dates).

Glace Bay, Newfoundland

Club member Dick Lemke, AD7AF visited the Marconi's Glace Bay 1902 Station Site this summer. The first North America to England message was sent from here, about one year after Marconi heard the signal from Cornwall on a kite vertical in Newfoundland.



October 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5 • RVARC Club Meeting	6	7 • California QSO Party
8 • California QSO Party	9	10 • Cascade ARE Meeting	11	12 • Rogue Hack Lab • ARES Net	13	14
15	16	17	18 • JCARES Meeting	19 • ARES Net	20	21
22	23	24	25	26 • ARES Net	27 • CQ WW SSB Contest	28 • CQ WW SSB Contest
29 • CQ WW SSB Contest	30	31				

Events

- The club meeting is in August (Swap meet).
- Thursday October 12th — 6:30 PM Rogue Hack Lab, Medford Library
- Tuesday, October 10th — 6:30 PM Cascade ARE Meeting—New Far East Restaurant
- Wednesday, October 18th — 6:00 PM JCARES Meeting. Location: TBD
- Thursdays 7:30 PM - ARES Net. **K7JAX Mt. Baldy Repeater 146.840 (-) [PL 123.0]**
- Next Newsletter: November Issue.
- California QSO Party. Saturday, Oct 7 9:00 AM to Sunday, Oct 8 3:00 PM PDT. Logs due October 23rd. <http://cqp.org>
- CQ WW SSB Contest—Friday, October 27 5:00 PM to Sunday, October 29 5:00 PM PDT. <http://www.cqww.com/rules.htm>

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 1058 Linda Ave.
Ashland OR 97520

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

For Sale / Wanted

Check out the RVARC club SellSwap webpage. You can post for-sale items, wanted items, browse for-sale and wanted items.

The page is moderated and has been active in the last month with some items being sold in less than 24 hours. Did you miss a bargain ?

<http://w7dta.org/sellswap>

2017 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 2017: Oct 28

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 2017: Nov 19

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.

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