



The Repeater

Next Club Meeting

Thursday,
November 5, 2015, 7:00 PM

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

Program:

1. QRP Backpacking
2. DXing from interesting locations.

Volume 2015, Issue 11

November 2015

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Club Web Page:		

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President & Webmaster
 Vice President
 Treasurer
 Secretary
 Newsletter & Membership

President's Report

A major theme of my time serving as club president this past year has been to try something new, set a goal and do it. A subset of the club came together and pulled off a significant score in this year's Field Day, and in adverse weather conditions. Congrats to those who pitched in for this effort.

The monthly meetings have had something for the less experienced amateur and, hopefully, for the fully experienced as well. We are now entering a new year for presentations and activities. Please consider what you have seen or heard that you would like to do more of, learn more about, participate in more for the club 2015-2016 year.

I have met some of my stated goals, failed

(Continued on page 2)

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

RVARC - Minutes for October 1, 2015

The meeting was called to order in the meeting room of the Red Cross building - Medford, OR .by Allan Taylor, K7GT at 1900 L . There were 31 members and guests in attendance.

Lud Sibley, KB2EVN, gave a brief discussion on Jefferson Public Radio, their use of translators, and their move away from HD format.

We were honored to have the ARRL Northwest Division Director, Jim Pace, K7CEX in attendance. He took some time to discuss the current activities and changes at the ARRL Headquarters. Jim also opened the floor for an interesting question and answer session for the members.

New business

Allan asked for two volunteers to join the Nominating Committee to seek potential of-

(Continued on page 2)

President's Report, Continued

on others. There was in the early ARRL Handbooks a statement called the Amateur's Code (I believe), by Paul Segal. I frequently recall that he mentions that an amateur is balanced, doesn't let his hobby interfere with his family, church, civic and other obligations. My unmet goals fall into those constrained by the need to retain balance. I still need coaching on setting up for digital modes, just didn't have enough time to master maintaining of the club website, haven't done any HF phone operating, etc. But I do retain that desired balance.

As we elect officers and otherwise prepare for the new club year, let us retain in our minds an appropriate balance between the new and exciting things in this our great hobby, our various service roles, and our other lives as fathers, sons, daughters, mothers, grandfathers, great uncles, and so forth.

I just returned from Pacificon 2015 and am full of things to try. I know I cannot possibly go in all those new directions or I would become like some cartoon animal pulled in multiple directions. Please review my overview to see if any of those topics excites your interest for the future. Maybe I can enjoy exploring them through your experiences.

73 Allan K7GT

Secretary's Report, Continued

(Continued from page 1)

Officers for the upcoming year. Anyone interested should contact Allan directly.

Treasurer's report

The Treasurer's Report was not given this month.

The meeting was put on hold at 1932 L for "eyeball QSOs" but no coffee. The meeting was called back into session at 1955 L

Presentation

Mike Bach discussed the process of designing and constructing tube-type power amplifiers. After reviewing the pros and cons of the different amplifier classes, Mike used his current project, a 160 meter grounded grid amplifier, as an example to step us through basic amplifier design. and the calculations involved in the process.

The meeting was adjourned at 2035 L

Submitted by Carl VanOrden, W7BRO Secretary

This Month's Programs

Allan Taylor, K7GT

Program: QRP backpack portable operating.

Allan will talk about some of the many interesting experiences he's had operating CW QRP portable from a backpack.

Club Elections

Bill Schrader, W7QMU

Program: DXing from Interesting Locations

Bill Schrader will discuss his DX operations from different locations, and share some of his experiences and talk about some of the interesting issues he has run into.

**Pacificon 2015, San Ramon, CA.
Conference Report — Allan Taylor, K7GT**

It has been five years since I had attended Pacificon and this year's was being held in San Ramon rather than Santa Clara. Not being deep in the madness of Silicon Valley and in the more familiar tri-valley area was a big draw. So, Glenda and I decided to do it again this year. Here are my observations.

Arrived without incident at 4PM, immediately went to Tap Plastics in Pleasanton and bought them out of 1/4" fiberglass rod (I'm going to make some 2m quads!) Glenda and I had a great meal at Chada Thai in the Crow Canyon center. Friday morning is the Antenna seminar. This year's seminar was a typical mix from very theoretical to very practical.

Steve Stearns (PhD) K6OIK: **Weird Waves: Exotic Electromagnetic Phenomena.** Have your vector calculus and partial differential equations reviewed before attending this one. His leadoff powerpoint slides were stills and videos showing actual computed EM fields in and around a car shell with a VHF (2m) radio at 75W to a roof-mounted 1/4 wave monopole. The video shows that both driver and passenger are subjected to RF exposure above the limit and anyone in the backseat is only less subjected. Scary!

His main talk discussed solutions to the Maxwell-Heaviside equations that cannot be found by the usual methods of separation of variables. He references methods by Bateman that use a dual formulation of the M-H equations. These solutions involved waves wrapped around and onto themselves somewhat like a pretzel and such that the E and H fields are not orthogonal to the direction of propagation. Steve speculated that some such self-contained EM field could well be a component of the dark matter of recent astronomy.

Rich Holoch, KY6R: **Antennas at the VK0EK Heard Island DXpedition.** This was an in-

fomercial about Heard Island combined with some talk about antennas to be used. The main site for the expedition (March-April 2016) is on the SW side of a major volcano (Big Ben, elevation ~9000') and thus mostly blocked to US west coast and midwest. If all works out, there will be a one-week satellite station on the E side that should give outstanding propagation to us! Rich, who is not going but part of the prep team stateside) is quite fired up about as many as possible getting an ATNO (all-time-new-one). (VK0 would be an ATNO for me)

Next was Ed Fong WB6IQN of UC Santa Cruz- Silicon Valley: **Tri-Band J-Pole Antenna.** Ed, along with a gang of grad student lackeys, have come up with a tri-band simple antenna for 144, 220, and 440 MHz. It is made of a special sort of twinlead/ladderline and mounted in a PVC 'radome'. While not providing gain over a vertical half-wave antenna, it is not subject to the high angle radiation on 440 of a traditional J-pole used on 440. (It will have a reasonable SWR on 440 but the angle of maximum radiation is about 45 degrees above horizontal! aargh!) Unfortunately it uses special cables in construction and would be difficult for the home builder to duplicate. His target user is a quick setup emergency responder, amateur or 'professional'-fire, police, etc. To me it was an interesting solution to a problem I do not have.

Rob Hill (CEO of Antenna Magic LLC): **30 Minute Antennas: Design and construction of an antenna in an extraordinarily short period of time.** Rob is a frequent visitor to the Antenna Seminars of Pacificon. His field is simple, very broadband antennas for curiously crowded and compact spaces. (He designed the antenna in the iPhone!). Rob's presentation wasn't actually making antennas in 30 minutes but displaying ones that he had done earlier in that timeframe. He uses copper tape, an Exacto-knife, some

(Continued on page 5)

(Continued from page 4)

sort of foam, a piece of special coax with a hard copper outer conductor and some sort of SMA (?) connector. They are too numerous to recount but ran the gamut of vertical to horizontal polarization, wide bandwidth to very wide bandwidth, omni to directional, conventional to patch, etc. Rob has been at almost all Pacificon antenna seminars since 1999. Rob gives a good show.

Tom Schiller, N6BT of N6BT Antennas: **A New Look at Verticals, Next Generation Antennas.** Tom is another frequent presenter. He started Force-12 antennas and now runs N6BT Antennas. His new company produces primarily vertical antennas. He recounted experiences with operating in DX contests from salt-water locations and has great stories to tell. The new material this year expands on experience that show amazing signal enhancements with verticals, properly set up, immediately adjacent to downward tending slopes and then to a large saltwater area (think Caribbean...) Oh, if we could own such a piece of property.

Werner Vavken, WB6RAW: **Making a HomeBrew 70 cm Eggbeater Satellite Antenna.** Werner is an engineer turned teacher. He has stirred up interest in amateur radio under the guise of monitoring satellite position and communication. His presentation was on a simple design for a 70cm satellite antenna. A student sidekick Rahul assembled one of his design antennas as he spoke. An interesting way to introduce young folks to ham radio.

Jim Brown, K9YC: **A Great 80m Vertical Dipole for Field Day and QSO Party that Old Men Can Build and Install.** Jim and a neighboring ham (George, have forgotten his call W6G.) set out to design and construct a performance 80m antenna for field events from the west coast. His thinking in going for a vertical dipole is that it would give a great signal to the east coast and provide adequate coverage in the midwest.

Their design used a variant of gull-wing radials, a feedpoint not at the physical base of the antenna/mast structure, 2" military mast segments for the lower mast, and a crappie pole for the top section. Once installed at their California QSO Party site this year, it performed well until the winds came along. The top section telescoping mast snapped at the joint with the lower aluminum sections. It seems that the telescoping mast wasn't really reinforced radially at the base.

This concluded the antenna forum. Dinner at Guiseppe's in San Ramon, Crow Canyon center again. Great jambalaya! On Saturday, the main event. There are seven parallel tracks of forum presentations. I will discuss only those I watched or intended to watch.

8AM Bob Schmieder, KK6EK Bob is the guy doing the Heard Island DXpedition in 2016. His presentation went into more details about their plans. They include DXA, a program that will allow you to check whether or not you are in their log within a minute or so of the contact. They will have a satellite link for data! Bob also discussed some scientific goals of the expedition.

9AM Mark Aaker, K6UFO (goes by Mork!) Remote Operating. Mark discusses various options currently available for remote operating.

10AM - 12noon Bob Heil, K9EID. I missed this presentation--couldn't find the room until 10:20 and then it was SRO.

So.... I went to the exhibit hall!

Vendors of note:

ICOM booth was busy and full of gear.

Yaesu booth was not very busy and had only some gear. It seems no new products to give that buzz.

Elecraft booths were very busy. Eric Swartz was there showing off the goodies.

(Continued on page 6)

Pacificon 2015, Continued

(Continued from page 5)

FlexRadio booth fairly busy. I had a good discussion with the lead guy. Interesting gear.

George, KJ6VU has a new design of pack antenna. His design makes sense and matches my experience. (I have always thought the **Buddipole** was a dummy load that radiates a bit on 15 and 10...) It should be easy to duplicate with only minimal effort. A good, efficient design.

HRO had a massive set of booths, and there was the usual collection of strays selling music CDs, LEDs, Li batteries, connectors and doodads. (I bought a 25' length of RG8X with PL259s for \$8)

Outside the presentation and exhibit hall rooms were several stray vendors. The one that comes to mind is the cute blonde selling **RESCUE TAPE**. I escaped buying only one roll for \$10 (I could have had 3 for \$20, 5 for \$30...8 colors to choose from...)

For those who follow QRP, Doug, KI6DS has sold his business to another fellow. The QRP types were hanging around that booth some.

Afternoon:

1PM Three interesting presentations to choose from. I began at the Elecraft presentation by Eric Swartz. He discussed new features in the K3S, some changes to the P3 panadaptor/display, etc. He finished early and I joined the last dab of K9JM and Arduino--Getting started from opening the box to 'hello world' on the display. I came in late; didn't get much from it. But the files are on his webpage <http://k9jm.com>

2PM Again, too many choices. I attended Randy Hall, K7AGE: Making YouTube videos. He gives a good presentation and is very experienced in video production. BTW: he is

relocating to Gold Beach in November

3PM Too many choices again. I skipped K7QO and his presentation on Muppet PCB for Easy PCBs and went for Steve, K6OIK and a tutorial on multi-band, multi-frequency matching. I should have stuck with Chuck as Steve's presentation assumed way more than I had.

4PM Again, too many presentations. I attended Dawson, AG6H and: A simple, high-performance homebrew SDR transceiver. His presentation style was great. He used available discrete boxes to tie together a simple SDR transceiver. It would, however, be hard to duplicate without serious work, good test equipment, and lots of eBay and internet purchasing.

Interesting people I met:

- Eric Swartz, WA6HHQ in the exhibit hall-- I have known him since the K2 intro.
- KE6RS a QRP guy from back when I did that.
- Clancy, N6FQQ, now essentially wheelchair-bound. Clancy was the only local ham that came to my antenna permit hearing in Pleasanton CA in 1994. A good guy.
- Chuck Adams, K7QO a good friend and fellow physics guy. He will be sending me some worked E/M problems from Jackson's Classical Electrodynamics. Chuck has a very nice webpage and radio building ideas. Also a learning code program.

Ran into several Oregon hams in the antenna seminar. Mostly from Hillsboro or Corvallis. They come to Pacificon for its high technical content. (So do I). Dinner in Mountain View with our daughter, Pacific Catch. Good but \$\$\$. The return trip was uneventful in spite of threatening T-storm cells wandering around the central valley. We only got rain near Red Bluff. **I have a flashdrive with the material from the antenna seminar. Anyone interested?**

Tower Installation, John Laybourne, W8WOM

Well the tower is complete, one large hurdle is done! Thanks everyone for your help and patience, now we move on to the antenna part of the project.

I have the log periodic which is all assembled except for the balun attachment and the coax run from balun to the center of the boom. The 40 meter beam is scheduled for shipment from Mosley is Oct. 12, hoping sooner, but we will see. The following week I will work with Mike (Bach) the "engineer" of this project on cutting and installing the rotor to the plate which will hold it. We will be installing mast and antennas all at one time thanks to the help of Cook Crane.

So this is where we are at in this project. I hope to see a few other members of the club when we do the final install of this project, it will be a REAL BIG deal and hope others can enjoy it. Till then have a good one and enjoy and always have fun. We will keep you all informed.

73

W8WOM



**ARRL / TAPR Digital Communications Conference 2015, Arlington Heights, IL.
Conference Report — Tom McDermott, N5EG**

The 34th ARRL/TAPR Digital Communications Conference (DCC) was held October 9-11 in Arlington Heights, IL. A fair amount of the content this year focused on remote Software Defined Radio (SDR) using web browsers. The emergence of HTML5 with built-in audio and video codecs and even an FFT capability means that proprietary applications are no longer required to use a remote radio, just web scripts. This has the potential to dramatically simplify remote access. Here are some of the highlights:

John Ackermann, N8UR presented a flexible, expandable relay switching system controlled by an Arduino. He is replacing failed surplus Hewlett Packard switching matrices. He uses an Arduino Mega 2560 and a color touch screen. TAPR will sell the product as "TASS".

Phil, K3TUF completely automated his VHF/UHF station. His transverters talk to FlexRadio 6300 SDRs at 28 MHz IF, the Beaglebone talks to the FlexAPI using UDP (streams) and TCP (control). Seamless interface with a small push button box.

Ken, W6HHC gave an update on the DVB-T digital transmitter project. The Windows host uses GraphStudioNext (free) Directshow filters and MPEG2 coders. He's using ODROID for encoding. The ODROID is a family of powerful credit-card sized computers made in Korea.

I presented "Echosounding the Ionosphere with SDR" showing results of actively sounding the F-layer. Lots of Q&A after the presentation. The materials are on my web page.

John Melton, G0ORX/N6LYT showed using Arduino to provide knobs and buttons for HPSDR sending ASCII text over serial/USB to the PowerSDR software. He found cheap TFT display and rotary encoders from SainSmart (China).

Zoltan, HA7DCD presented a transmitter shield for Raspberry-Pi that can transmit WSPR/JT65 at a few hundred milliwatts. This was his university project. A PCB is available.

Andreas, HA7ILM discussed a skinny DSP C-library for his webserver project. Users can select spectrum and demodulate it with a chosen SSB/AM/FM demod and send the audio over the web to their client. He could serve 10 clients using ODROID / Ubuntu 14.04 server.

Dan White, AD0CQ of SATNOG showed a project to equip satellite ground stations all over the world using RTL dongles and Az/EI satellite antennas that can be scheduled. This allows downlinking cubesat data from any visible station rather than just when the desired satellite is over your specific ground station. They had 3D CAD files and demonstrated the 3D-printed gears, bearings, and rotator parts, which may be open source.

Steve Bible presented the Sunday morning seminar on 3D CAD Modeling. He discussed the process as:

1. Drawing the parts—3D Modeling (CAD)
2. Determining the tool path needed —3D Computer Aided Manufacturing (CAM).
3. Cutting the material itself—3D Computer Numerical Control. (CNC).

Steve limited his material to (1). He put in a plug for <http://techshop.us> which is a membership shop with lots of tooling, machinery, and helpers to help you build your project. Steve also mentioned that makerzine has an annual issue on 3D printers. There are web-stores that can fabricate your parts from 3D CAD files, one he mentioned is www.thingiverse.com. They can fabricate from plastic, wood, and metal using various 3D printing, machining, and lost-wax-casting methods.

Ward Silver, N0AX gave the banquet speech: "Ham Radio 2.0"

ARRL Northwestern Division Election

The ARRL is conducting elections for the Northwestern Division Director and Vice Director positions. If you are a member of ARRL, you should have received your ballot in the mail about the 2nd week of October.

Ballots must be returned to the independent auditors (not ARRL) and arrive on or before noon, November 20, 2015.

This year each office has two candidates. The ballot mailing contains a written statement by each candidate running. Please read and review the material carefully before mailing your ballot.

The candidates for Director are:

- William Balzarini, KL7BB
- James Pace, K7CEX

The candidates for Vice Director are:

- Bonnie Altus, AB7ZQ
- Delvin Bunton, N7QMT

ARRL Scholarships

It's Scholarship Season: The ARRL Foundation Scholarship programs opened Oct. 1 – the application is on the Foundation's webpage at:

<http://www.arrl.org/scholarship-application>

Clubs and ARES groups are encouraged to place this announcement in their monthly newsletters.

The ARRL Foundation has many scholarships available, but one application form that can be used to apply for one or many scholarships.

ARRL "National Parks on the air" 2016-year-long Event

The recent W1AW in-all-states year-long centennial event was such a success that the ARRL has commissioned a new year-long event to celebrate the centennial of the US National Park Service (NPS).

The program will have two participation tracks — Chasers and Activators. Chasers will simply attempt to make contact with operators in as many of the NPS units as possible. Activators will attempt to activate as many of the units as possible. NPOTA participants may serve in both roles. Chaser and Activator totals will be tracked via an online Leader Board based on LoTW data, just as was done during the Centennial QSO Party.

Modeled after the Mixed DXCC award, only one contact with any given NPS unit will be required, and no tally will be kept of NPS

units based on bands or modes. NPOTA will be administered entirely through Logbook of The World (LoTW). No paper logs or QSLs will be accepted for NPOTA credit. Each NPS unit will be added to LoTW as a "location."

"Portable operators, this event is for you!" Sean Kutzko said. "Start thinking about how you would incorporate Amateur Radio into your visit to an NPS unit. Whether you're camping in Yosemite, driving along the Blue Ridge Parkway, or set up in a corner of Andersonville Prison, you will definitely draw a pileup. As long as you are on the property of the NPS unit, you will qualify as being in the unit."

More information will be forthcoming from the ARRL. Most material from the ARRL NW Division email letter.

RVARC October Meeting

Walt Deutsch, KG6MZU was kind enough to take some photos of our October meeting.



The ARRL Northwestern Division Director, Jim Pace, K7CEX spent a few minutes discussing the ARRL, the new CEO search, and items of interest (such as RFI).

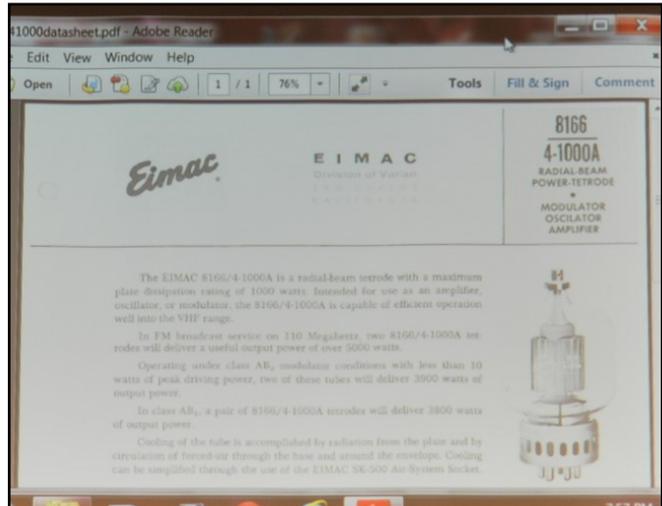


Later, Mike Bach gave a great presentation on HF linear amplifiers, and an overview of the partially finished chassis of his 160 me-

ter single-band amplifier using a 4-1000A vacuum tube, vacuum variable capacitors



and a large inductor. Mike went through some designs for the Pi-networks used to impedance match the tube to 50 ohms. Mike plans on running about 4000 volts on



the plate, and use the tube in grounded-grid configuration.

November 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5 • RVARC Club Meeting • Women Hams Net • ARES Net.	6	7 • ARRL Sweepstakes CW
8 • ARRL Sweepstakes CW	9 • Women Hams Net	10	11	12 • Women Hams Net • ARES Net.	13	14
15	16 • Women Hams Net	17	18	19 • RVARC Newsletter Deadline • Women Hams Net	20	21 • ARRL Sweepstakes SSB
22 • ARRL Sweepstakes SSB	23 • Women Hams Net	24	25	26 • Women Hams Net • ARES Net.	27	28 • CQ WW DX CW
29 • CQ WW DX CW	30 • Women Hams Net					

Events

- Thursday November 5th - 7:00 PM RVARC Meeting. Red Cross Building Medford.
- Tuesdays & Thursdays 7:00 PM—Women Hams Net K7RVM Repeater 147.000 (+) [PL 123.0]
- Thursdays 7:30 PM - ARES Net. K7RVM repeater 147.000 (+) [PL 123.0]
- Next Newsletter: December Issue. Deadline for input: November 19th.
- Nov 7-8—ARRL Sweepstakes CW <http://www.arrl.org/sweepstakes>
- Nov 21-22 ARRL Sweepstakes SSB <http://www.arrl.org/sweepstakes>
- Nov 28-29 CQ Worldwide DX Contest CW <http://www.cqww.com/>

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

2015 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 2015 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 starts at 9:00 AM. Walk-ins welcome.

Location: Fire District 5 HQ. 5811 South Pacific Highway, Phoenix, Oregon 97535

Dates 2015: Oct 31

Contact: Don Bennett, Email: kq7bp@rfwarrior.com Phone: (541) 973-3625

Grants Pass

Time: Fridays Registration 6:00 PM. Exam session starts at 6:30 PM. Walk-ins welcome.

Location: Fruitdale Grange. 1440 Parkdale Dr., Grants Pass OR 97527-5288

Dates 2015: Nov 20

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

**November 5, 2015, 7:00 PM Red Cross Building,
60 Hawthorne St., Medford, OR Across from Hawthorne Park**

Programs:

1. QRP Backpacking
2. DXing from interesting locations.