W7DTA
AMATEUR RADIO CLUB
Rogue Valley
SINCE 1936
MEDFORD, OREGON

The Repeater

Volume 2012, Issue 11   **November 2012**

President's Letter

Autumn is one of my favorite times of the year. In addition to usually mild weather it's a good opportunity to get some last minute antenna work done to get ready for contesting season. If any club members need help with tower or antenna work (or know any hams that do) please let me know so we can get it scheduled.

I wanted to take the opportunity this month to thank everyone who volunteers their time to help others and make our club successful. Tom McDermott, N5EG probably donates more time to our club than anyone else. Although he travels extensively for work he al-

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Secretary's Report

MINUTES OF THE 4 OCTOBER 12 ROGUE VALLEY AMATEUR RADIO CLUB MEETING

The meeting was called to order by President Jeff Statchwick W7KNX at 1900L in the Red Cross building in Medford, OR.

Guests in attendance where: Ryan LePage KD7RQ, Don Miller N0TLT & Jerry Fulstone K6KSI. The minutes were not read as they are in the newsletter. Lud KB2EVN reported VIA Jeff that the club treasury has $4028.97 in it.

Old Business:
1. Tom McDermott N5EG has all the paper work done and is the new club trustee.
2. Jeff got the club equipment from Van

President's Letter, Continued

ways produces a high quality newsletter. Our Vice President, Scott Cummings, KD7EHB and Carl Van Orden W7BRO have worked hard to make Field Day a success the last few years. Herb Grey, W7MMI is always there to help with just about anything and is always at the meeting early to unlock the facility, and is the last one to leave to make sure it is left as we found it. Joe Gunderson, AF7GN, has been very effective as our club PIO, making sure that our special events get as much publicity as possible, and is now coordinating classes for new hams. Don Bennett, KG7BP has spent many hours as a VE proctoring tests for new hams, many who are now club members.

Also volunteering their time to help license new hams: Dale Trautman N7IXS, Rita Derbas KI6SSQ, Dan Curtis N6WN, Rick Dumont KG7PX, Bill Anderson KU6Y, Morris Prosser KB6QR, Richard Pruitt N6QZU, Dave Aikins KG7HJ, Bud Larson W7LNG, and Scott Cummings KD7EHB. Dave Basden, W7OQ serves as our webmaster. Lud Sibley , KB2EVN has served as club treasurer for some time and I would like to thank Jack Schock, WA7IHU for his work as club secretary. Jack also gave a very interesting slide show at the October meeting on shacks in the area. I would like to thank everyone who is willing to take the time to prepare and give presentations which make our club meetings so interesting.

At the November meeting election of 2013 officers will take place. Nominations from the floor will be accepted (with prior agreement of the nominee) in addition to the nominees presented by the nominating committee.

At our meeting in November, Bob Deuel, K2GLO will give a power point presentation entitled "12-volt anode tubes and the hybrid

Secretary's Report, Cont'd.

K7VS and it is on the table in front of the room with bid cards by each item. After the break it will go to the highest bidder.

New Business:
1. Tom & Herb W7MMI will be the nominating committee. Jeff will run again as president and Scott Cummings KD7EHB as vice chairman. Jack WA7IHU will not run as secretary.
2. Jeff is looking for a volunteer to take over the coffee making duties. Todd Carney KF7SIS volunteered.
3. Tom volunteered to have a Christmas "pot luck dinner" at his house instead of at a restaurant. Jeff asked for a motion, Herb made the motion and Jack 2nd it with the addition that we don't have a gift exchange. It carried unanimously.
4. Joe Gunderson AF7GN made a motion that Ryan LePage KD7RQ be his assistant PIO. Dale N7IXS 2nd it and it passed unanimously.

Jeff put the meeting on hold for coffee and an "eyeball QSO" at 1900L and called the meeting back into session at 1945L.

1.We sold radio items as follows:
Antenna tuner – Joe Gunderson $30.00
2m Azden - Todd Carney $35.00
Atlas 210x – Bud Larson $101
Parabolic Noise Rx – Jerry Fulstone $20.00
Kenwood TS120S – Curt Hadley $159.00
2.Jack WA7IHU put on a Power Point slide show of chapter members ham shacks and antenna.
3. John Armstrong, KF7UMK gave a demo of his Raspberry Pi computer.

Jeff adjourned the meeting at 2100L
Submitted by Jacob O. (Jack) Schock WA7IHU secretary

I managed to get to the Pacificon ham convention in Santa Clara, CA this year and it was all of the advertised hype and then some!

I have to hand it to the guys of the Mount Diablo ARC for managing to pull off the successful ham convention that Pacificon has been and to combine it with the ARRL National Convention. I couldn't help but admire the logistics and organization that was evident. To sum it up in one word, it was *awesome*! As the crowds swirled, it was a pleasant surprise to see familiar faces from southern Oregon pop up from time to time. But really this is about a singular event that just took the experience of Pacificon for me over the top!

It all started after my big brother Bill, WA6IOQ and I just couldn't take much more of cruising the Vendors hall looking at all the top of line rigs and equipment displayed by the various big name manufacturers. We had just exited for some fresh air outside to clear the heady maelstrom of ham radio bliss when we found ourselves in front of W1AW/6!

Set up in the parking lot soaring majestically skyward was a portable trailer-mounted tower from US Towers with a Force 12 yagi facing east, and 2 dipole antennas for 40 and 80 meters draped tight at the top. Truly a structural work of art to the tune of, as I found out later, $110,000 bucks! But what caught our attention was the noise of someone working a pileup inside the portable shelter. Inside, people watched an operator handle the Elecraft dream station (with all the bells and whistles) and handle the operator duty like he'd done this before several times at least.

The guy standing next to me whispered to his friend that this operator was just back from the 3D2C Conway Reef Dxpedition and was wearing a cool 3D2C t-shirt . The guy next to me was control operator and chief station tweaker for the moment when Mister 3D2C signed with the last Q, took the headset off and said "who's next on the list?".

The guy next to me, obviously nervous and sweating bullets, raised his hand and slinked into the hot seat like it was his own personal walk on "The Green Mile". His fate was before him as he called the first of "CQ CQ, this is W1AW/6" and awaited the veritable avalanche of a pileup. A dozen and a half watching fellow hams in the room were evaluating his performance. I'm glad to report he reached a decent Q count rhythm with a coveted and penultimate award of a thumbs up and lack of attention from Mister 3D2C.

And then, it happened. Anyone having an older sibling knows that tone of voice, that subtle inflection in words spoken with the impact of a glove to the face and a challenge to a duel on a field of honor at dawn as my brother casually leaned in and said "well bro, you should put your callsign in the hat for a slot to operate". Knowing in an instant that my brother's intent was to watch me shame myself while attempting to operate W1AW in full public view and with a huge pileup to boot, and be forever labeled…..LID. How diabolically clever on my brother's part and a effective method of retribution by him for the cheap blended scotch I bought him at the hotel bar the night before while I ordered a 15 year old single malt.

Well since my honor was at stake, I did what I had to do: signed up, and marched in the direction of the bar for a shot of expensive liquid courage.

(Continued from page 3)

In one's life there's an hour of reckoning and mine was in the operator's chair of W1AW/6 at 1900 hours local time. But there was method to my madness in that moment of dilated time as I wrote my callsign on the sig-nup sheet. At that hour the dinner function was being held in full swing in the grand ball-room and most of all attendees of Pacificon would be there, leaving very few as witness-es of operator failure on my part (much to the chagrin of my brother).

As they say, revenge is a dish best served cold as I worked a huge pileup of JA's for an hour, logging furiously and signing the revered and time honored W1AW/6. By the way, I also received the coveted thumbs up, lack of attention, and a certificate as an op-erator of W1AW/6 from Mister 3D2C as well.

The 2012 ARRL / TAPR Digital Communications Conference was held in Atlanta, GA the weekend of September 21-23. I had missed the last several DCC's, and was glad to be able to attend this one. The last one attended was the one held near Portland in 2009.

Friday had a full day of technical and operations talks—all of which were excellent. There were some updates on AMSAT satellite programs. Hams apparently have taught satellite operators a few things:

1. Satellites can replace ballast on test launches. That plus launch insurance have eliminated pretty much all heavy-payload ham launch opportunities.
2. Microsats can be quite useful, as a result ham launch opportunities for those are now few, far between, and expensive.

Steve Hicks, N5AC, VP of R&D for Flex Radio gave a presentation on the Flex 6000 SDR radio, and showed how advances in FPGA computing capability essentially allow placing a supercomputer in each radio. (Steve worked for me briefly many years ago at Collins Radio).

Heikki Hannikainen, OH7LZB presented the story of the APRS.FI servers located in Finland, and the high-performance, high availability European APRS central routers. They used surplus (but pretty recent) high performance servers in a data center that hosts special projects. Heikki showed how they re-wrote parts of the server code to increase the performance to thousands of web queries per second. An extremely impressive paper and accomplishment. Their system also tracks airplanes in flight and he demonstrated a live google-earth map view of commercial flights in southern Finland.

Andrew Pavlin, KA2DDO discussed a new open-source APRS client that he has written. It's very modern and utilizes Open-

StreetMaps. Bob Bruniga (the father of APRS) was in the audience, and nodded approvingly at all the useful features that Andrew has incorporated. It has a tactical message data base, GPS interface, NWS drawing, and several protocols. It's available over the internet at: http://www.findtheater.com/ka2ddo/YAAC.html
It runs on Windows, MAC, and Linux.

There were a number of toys available to play with in the demo room after the talks Friday, including 440 MHz high-performance data links, several D-STAR demos, several SDR radios, and a couple others that I've forgotten.

Saturday had two tracks, one technical, and one introductory. The introductory tracks had some interesting sounding sessions on D-STAR, but being unable to be in two places at once I attended the technical tracks.

David Bern, W2LNX discussed a system he assembled from off-the-shelf products, a Ethernet router board that is essentially an open-source Ethernet switch/router that is DD-WRT compatible with two card cages for radios and no built-in RF. David used plug-in radios from Doodle Labs and XAGYL that can be run in the 440 MHz ham band. He achieved about 6 Megabits/sec back-to-back, and about 2 to 4 Mb/s using yagis over various clear paths of 5 to 13 miles. He demonstrated full motion digital video using the radios.

Chris Testa, KD2BMH showed a presentation of a self-contained handheld transceiver (same size as a large handie-talkie) that was completely SDR. He concentrated on low-power consumption so that it would have reasonable battery life. It operates on 2M and 440 MHz, can be programmed for AM, SSB, FM, and various digital modes. Pretty slick.

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Sunday morning Tom Rondeau, KB3UKZ presented a 4-hour seminar on GNU Radio. Tom has taken over development and maintenance of the GNU Radio project from Eric Blossom. http://gnuradio.org/redmine/projects/gnuradio/wiki

GNU Radio is an Open Source (free) software program that runs on Linux for prototyping and building real-time software-defined radios (SDR). In the past these applications have been custom-written due to the very fast processing required. GNU Radio is a framework for doing the signal processing at speed on the PC (hundreds of thousands of samples per second or more) using drag-and-drop graphics. Many of the common processing blocks have already been written (such as filters, modulators, de-modulators, Fourier transforms, phase locked loops, etc.). It also includes a data viewer that can show time, frequency, waterfall, and constellations.

Interfaces to the USRP radios designed by Matt Ettis come bundled with GNU Radio, as do interfaces to the FunCube and Ezcap dongles. The Funcube is a 60-1700 MHz receiver on a USB stick, and the Ezcap is a European format DVB-T television receiver. The Ezcap can be programmed to bring out straight I– and Q– samples at 3.25 Ms/s, the radio tunes from 48 MHz to 863 MHz but some can tune much further, it's available for between $20 and $40 from numerous internet vendors (including Amazon.com). Tom demonstrated hooking up the Ezcap dongle to his computer, and on-the-fly he constructed a wideband FM receiver. We were able to listen to some of the FM stations in Atlanta from his laptop speakers using GNU Radio. Any of the DVB-T dongles that use the RTL2832U chipset are supposed to be compatible.

For the seminar, each attendee got a boot-

able and runnable DVD with Ubuntu Linux and GNU Radio. It does not touch the hard drive of the computer. This allowed those attendees with Windows only laptops to run the software and follow along with the seminar examples.

After returning home, I found WUBI—a program that allows installing Ubuntu Linux on a Windows NTFS file system. This allows dual-booting my Windows computer without having to partition the hard drive. WUBI then lead to installation of Ubuntu with the Gnome interface. Under Ubuntu I then installed GNU Radio 3.6.2 and the associated tools (GNU compilers, etc.). GNU Radio installs in the traditional Linux fashion from source, so the computer had to fetch the required support utilities and then compile and build the whole package. It took about 8 hours, but went flawlessly.

This allowed duplicating all the seminar exercises on the computer at home. Since there is an actual application for all this, it was desirable to learn how to write signal processing modules for GNU Radio. The fast-path code is written in C++ and uses SWIG to interface to Python. I took a quick on-line course on Python, but so far turns out it has not been needed. Fortunately I already knew C++. Some exploration turned up scripts and make files for creating a new GNU Radio module, and in a few hours I was able to generate a simple module, XML, compile and link, and load it into the GNU Radio environment, where it works as intended and interfaces with controls and sliders.

Next up is the desire to build software to interface to a ham SDR transceiver that Open HPSDR and TAPR kitted and manufactured this summer called Hermes (just arrived yesterday). But that's the subject of another newsletter article. TAPR would like to host DCC in the western USA next year.

RVARC Dues	**President's Report, Cont'd.**

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 102 McDonough Rd.
Gold Hill, OR 97525-9626

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

car radio, plus an overview of some vintage receiver construction projects using space charge grid and starved anode technologies". It should be fascinating.

I hope to see you all there.

73,

Jeff   W7KNX

Amateur Radio Examinations

In the Rogue Valley, amateur radio exams are provided by the RVARC and the SOARC. The 2012 and 2013 exam schedules have been announced. New exam participants need to provide identification, while upgrading amateurs need to **provide a copy of their current license** as well as show identification. Exam fee for 2012 is $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

Medford—Note: NEW LOCATION—Phoenix, OR
Time: Saturdays, 8:00 AM. Walk-ins welcome.
Location: Fire District 5 HQ.   5811 South Pacific Highway,   Phoenix, Oregon 97535
Dates 2012:   Oct 27
Dates 2013:   Feb 23   June 22   Oct 26
Contact: Don Bennett, Email: kg7bp@rfwarrior.com Phone: (541) 973-3625

Grants Pass
Time: Arrive 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 2012:   Nov 16
Dates 2013:   Feb 22   May 17   Aug 23   Nov 15
Contact: John Stubbe, K7VSU, email: K7VSU@arrl.net, Phone: (541) 218-2244

Next Club Meeting
Thursday, November 1, 2012, 7:00 PM
Red Cross Building, 60 Hawthorne St., Medford, OR
Across from Hawthorne Park
Program: 12v Anode Tubes and Specialized Tube Applications.