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ARRL Section News

This Month's Meeting

November 20

FREE RADIOS!!!

**Just Kidding
Really, it is election time.
Those not present may be
elected!**

PRESIDENT'S MESSAGE

November is here and from what I've heard on the repeater many of you are very busy. Most of us have been completing our last minute winterization plans or working on your burn piles now that the first rains have come. Other than our club nets I haven't been on the radio too much. I have been doing some things related to the hobby, just not operating. I've been spending some time catching up on some QSL cards and helping with the repeater upgrades in a small way. I've also been spending some time on the club web site fighting off spam attacks from China. I slowed the attacks to the site considerably but there are a few holes left for me to plug.

The club has a few things going on this month. First, the club meeting this month is on the **third Thursday, November 20th**. At the meeting we will be holding our annual elections for club officers. The elections shouldn't take too long so it's a good meeting to bring in any projects you might be working on and show off your skills. On Saturday, November 22nd, weather permitting, Bill, W6LSW will be holding a Fox Hunt for the club. The tentative times are 9:30 am to 12:00 pm, but tune into the net or come to the next meeting for more details. Then, on Saturday December 6th at 6:00 pm the club will have its Holiday Dinner. We will have it at the Federated Church and the meal will be entirely a potluck. I will have a sign up sheet at the next meeting for the dish you would like to provide or you can email me with your choice.

Well, don't spend the entire month working on chores. November is usually a good time for low band DX and some of the big contests happen during this time of year. I'm going to do my best to do some radio operating instead of operating a paint brush.

I'll see all of you at the next meeting and Happy Thanksgiving.

73, **JAY KEGLA**

Submitting Material to the Circuit

Material may be submitted for publication by sending it directly to the editor. This can be done by US Mail, or via the Internet (preferred). The deadline for each issue is the **Thursday**, one week before the monthly meeting.

by mail
Bob Hess, W1RH
5020 Glory View Drive
Placerville, CA
95667

by internet
w1rh@arrl.net

El Dorado County ARC Horizons

November 20 - EDCARC Club Meeting

November 22 - Mother Load DX/Contest Club - 11A-3P - Martell

December 2 - River City ARCS—7:00 PM—Sac County Corp Yard

December 6 - EDCARC Holiday Dinner - See President's Message

December 7 - Tahoe ARA Meeting, 1 PM, Zephyr Cove Library

December 10 - Sacramento ARC—7 PM—Sac Blood Source, Mather

December 12 - Sierra Foothills ARC—7:30 PM—Auburn Library

BOARD MEETING MINUTES,

October 23, 2008

Loretta Ozment, N6NQH, Secretary

The Board meeting was called to order at 6:30 PM by President Jay, KE6GLA. Other board members present were Mike, KN6XJ; Donna, K6DLR; Michal, WA6RZ; Dave, KG6YBE; Bill, W6LSW, Merv, WA6LYE; and Loretta, N6NQH. Dave moved that the minutes of the previous meeting be approved. The motion was seconded by Don and passed.

Old Business: (1) A check for \$100 was previously approved and is now due for the church building use on December 6. (2) Jay reported that he will prepare certificates for Club Lifetime Membership to be presented on December 6. (3) The next Fox Hunt time and place will be set by Bill.

Programs for the rest of the year are all set, per Don. Tonight's program is "DXing" by WA6RZ. November's meeting will be Board elections, and December 6 is a pot luck dinner with no regular meeting.

Treasurer, Donna, reported last month's income was \$15.00 from membership dues and \$25.00 as a donation to the repeater fund. One bill for \$70 was received from World Radio for monthly publication of our club meetings time and location. Don moved that \$70 be approved for the World Radio bill. Bill seconded the motion and it passed.

Merv, as Repeater Trustee, commented on the recent upgrading of the repeater system which has resulted in a top notch repeater. However, the upgrade has depleted the Repeater Fund which is also used for ongoing expenses such as insurance and the monthly telephone bill, so donations to replenish the Repeater Fund would be appreciated. The insurance bill

is split with half paid by the Repeater Fund and the other half by EDCARC. Don moved to authorize \$160 insurance payment, for the club's half. The motion was seconded by Donna and approved.

New Business:

- (1) Jay reminded that the next meeting on November 20 is election of next year's officers and board members.
- (2) Holiday dinner, planned for December 6, will be mainly a potluck dinner. Setup will require plans for plates, napkins, decorations, etc. Less money is available for door prizes this year.

As there was no further business, the meeting was adjourned.

EDCARC GENERAL MEETING NOTES, October 23, 2008

Loretta Ozment, N6NQH, Secretary

The General meeting was called to order by President Jay, KE6GLA. After the Pledge of Allegiance was given, each person introduced himself/herself by giving name, call sign, and home location. There were 22 people in attendance. Two new Hams were recognized and welcomed - Ken Nead, KI6FIS, and David Smythe, KI6TGK.

Donna, K6DLR, reported the Treasury Balance is \$619.00

Next month's meeting will be earlier in the month than usual because of Thanksgiving Holiday. It will be on the third Thursday, November 20 at 7:15 PM.

ARES: Don, KG6YST, announced an ARES Hospital drill at Marshall Hospital on November 6 from 9:00 AM to 2:00 PM. Volunteers will be needed to operate packet radio.

VIP: Jerry, K6GER, received an email requesting volunteers for the Home and Garden Show in Placerville on October 25 and 26.

Newsletter: Bob, W1RH, thanked members for the great contributions for the newsletter.

Jay announced contests, CQ coming up this month and Worldwide HF this coming weekend.

Pacificon, October 18-20: Dennis, KI6GSJ; Harry, W6HFM; and Ken, W6KWV gave reports of their attendance, activities and impressions of the Conference. Friday's antenna sessions were well worth it, talks were good, and it was good to meet other hams.

Bob brought a short video, which is a preview for a longer one, about mobile radio communications used during World War II in the Pacific to report enemy movements, at the risk of their lives.

The evening program, presented by Michal, WA6RZ, was a PowerPoint show on "HF DXing Techniques", filled with procedures and many helpful pointers.

The meeting was adjourned for refreshments and for the raffle.

P.S.: The next Fox Hunt is set for Saturday, November 22.

WORLD RADIO

From Dave, KG6YBE, via the ARRL

World Radio to Cease Print Publication: In a joint statement, World Radio Publisher Armond Noble, N6WR, and CQ Publisher Dick Ross, K2MGA, announced that World Radio magazine will no longer be published as a print magazine. According to the announcement, CQ Communications Inc has acquired World Radio and plans to continue it as an online publication on CQ's Web site. World Radio subscribers will have their subscriptions transferred to CQ magazine. Readers will be notified of details as plans are finalized.

CLUB WEEKLY NET

Is held Tuesday evenings at
8:00pm on the AG6AU repeater
147.825

CTCSS/PL tone of 82.5

EDCARC ELMERS

Contesting / Tower Permits—Bob Hess W1RH

Working DX—Michal Warzecha WA6RZ

Soldering—Dave Cole KG6YBE

VHF Contesting/Satellite—Jay Har-
mor KE6GLA

NEW HAM RADIO STORE!!!

Carl, WF6J

Bob, WA6ULL and I visited the new Radio Supply Company today just North of I80 in Auburn.

I must say that it is a delight to see actual Amateur Radio gear on display and for sale. He has a lot of new gear. Currently he is carrying ICOM and Yaesu, and plans to add more lines. He has a good selection of mic connectors, DC power cables, parts, antennas, coax and a consignment shelf. He also has a high tech radio repair bench and offers that service.



Radio Supply Company

Having owned my own business a few times, I know how difficult is it to "start out" and it has to be doubly bad in this economy. If we support him, he will be around, if not he might go the way of others who went before. Let's all hope he stays for a long time.

I know that Dave wants to get the word out, so this is my part of the bargain. I am sure he would also like to come out to the club meetings to say Hello and invite folks to stop on by.


Attached are some files. His business card and a map of his location.

<http://www.radiosupplyco.com/>

Radio Supply Company
Commercial Amateur CB Marine Broadcast

Dave Fortenberry
Owner

4055 Grass Valley Highway Suite 105
Auburn, CA 95602
530.888.8483
dave@fortenberry.cc
www.radiosupplyco.com



COUNTY ARES NET

Is held Monday evenings at 8:00pm
on the AG6AU repeater.

El Dorado County Circuit

EDCARC TRANSMITTER HUNT NOVEMBER 22, 2008

Time: 0930 - 1200

Start Location: El Dorado
County Library
in Placerville.

Since this hunt will not be a difficult one, everyone should begin at the same location to make it fair for all participants. Before beginning, each participant must identify themselves via the Club Repeater so that none will be lost when the hunt is terminated. The transmitter you are hunting will be within a 10 mile radius of the starting point.

Unless otherwise notified, the T-hunt will be on 146.580 MHz.

Transmissions will be approximately 30 seconds on and 30 seconds off using a circuit of my design. You will hear a pre-recorded tape that was made for T-hunts as much as 15 or so years ago. The tape contains primarily call sign identification accompanied with a lot of fill-in talking. You will probably get tired listening to my voice. Sorry about that!

Bill, W6LSW
and Loretta, N6NQ

THE RUSSIAN WOODPECKER

From Knol.google.com

[Michal (WA6RZ) and I had some discussion the other day about the years of the Russian Woodpecker and what it did to 160 meters. For those who heard it, the sound is unforgettable. Michal found this article and thought we would share it with the Club—Bob, W1RHJ]

Not an avian at all, the Russian Woodpecker was the vast, faceless and distant enemy of most of the users of shortwave radio in the Western World

for eight or nine years, beginning in 1976. Folks were going about their electronic business in North America one day (July 4, 1976. Bathe in the snark), talking to airplanes, ships, each other - and all of a sudden, an enormous stuttering noise slammed down onto an entire range of frequencies. The signal was monstrously powerful, and was heard on wide bands (up to 40 KHz across) on several frequencies in the shortwave bands. It manifested as a harsh, rapid clicking or tapping.

Andy Clark, call sign W4IYT, was at the time working for a commercial aeronautics radio company. It maintained communications links between commercial aircraft and their owners, allowing airlines and the like to speak directly to their airplanes while aloft. In a 1999 interview with the Miami Herald, he claims that he named the phenomenon 'woodpecker' for the sound. While talking to his home office, he asked if they, too were getting an awful loud 'woodpecker' noise on their airwaves. They confirmed it.

What was it determined to be at the time?

The 'woodpecker' was fairly quickly tracked back, using RDF, to two sites inside the Soviet Union. Analysis of the pulses, as well as the behavior of the signal (times of day, attenuation, etc.) indicate that the 'woodpecker' was the signal of an extremely large OTH-B radar system. This system was, presumably, being used by the Soviets as a long-distance air-search radar to warn them of inbound bomber and cruise missile attack travelling over the North Pole.

It was tracked to two sites because, like many extremely powerful radar systems, processing the radar return data was much easier if the transmission and reception points were widely separated, rather than having to filter the full strength of the emissions from an adjacent transmitter. The sites were near Minsk and Nicolaev, and were likely operated by PVO Strany as early warning systems.

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Why was it a problem?

It was a problem for Western operators because the Soviets had chosen to use a set of frequencies which had been set aside for civilian use by international agreement. They didn't care, of course. Hams and companies pushed the U.S. Government (and the British Government, and the Canadian government) into formally protesting to the U.S.S.R. about the woodpecker's presence. However, the Soviet Union would never even officially acknowledge the presence of the woodpecker, much less that it was their doing - in much the same way the U.S. government refuses to acknowledge the existence of Area 51. Since they wouldn't own up, protests were pointless.

'The Russian Woodpecker,' as it came to be known, would appear when the atmospheric conditions over the northern hemisphere were conducive to shortwave relaying - shortwaves travel around the world (rather than straight into space) by bouncing off the ionosphere and then the ground, 'rebounding' their way around the planet. These did the same thing. Not only did it invade voice transmissions, but harmonics caused pulsing static on television signals, made more problematic by the lack of modern filtering electronics on most television sets at the time. For a while, electronics companies in the West even began selling 'Woodpecker Killers' - damping and filtering devices that would, when connected inline with commercial radio and television antennas, damp out the characteristic steady pulsing of the woodpecker's signal. These worked with varying degrees of success, as the woodpecker was wily, and jumped around a bit as the Soviets adjusted the system for best resolution. Eventually, the Soviets did modify the operating parameters of the radar to avoid the most commonly used aircraft emergency frequencies, which didn't calm down the ham community.

What Did the Signal Look Like?

Lots of folks in the civilian ham radio

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community hauled out oscilloscopes and wideband receivers and had a good gander at the woodpecker. Some did so out of curiosity, some did so while finding ways to damp it out. A few, however, did so with an eye to defeating it (more on that in a moment). So doing, they left us with fairly good data on what the signal looked like. The majority of the following data is from an article reprinted on the web from the ham radio magazine "Monitoring Times", and was originally published in 1985.

At the grossest level, the signal varied in its pulse rate - not the frequency it travelled on, but the rate of the signal pulses heard. Although it was observed at 10, 16 and 20 Hz, it operated nearly all of the time in a 10 Hz mode. The pulses were centered around four different frequencies at any given time; typically, it wandered around the low MHz range. The example given in the article has it observed using 16490, 16450, 16490 and 16570 KHz.

There were two observed main 'operating modes', named 'static' and 'dynamic' by western observers. In static mode, the woodpecker would transmit four pulses, one on each of the four operating frequencies, in four adjacent 7 ms windows. The pulses themselves were of unknown shape and length, as they were hashed by the bounces and the like, but their observed length varied between 3 and 6 ms. Then there would be a 72 ms silent period, and the cycle would begin again. This produced the 10 Hz pulse - 7ms + 7ms + 7ms + 7ms + 72ms = 100ms, or one-tenth of a second. So it was actually producing four separate 10 Hz pulses, offset by approximately 7 ms in time and a few tens of KHz.

In 'dynamic mode', the woodpecker would step through four different frequency-to-window assignment patterns over a six-second cycle. That is, if we label the operating frequencies of the moment A, B, C and D then the cycle might look like this:

seconds 1-6:

(window 1) A (window 2) B (window 3) C (window 4) D

seconds 7-12:

(window 1) B (window 2) C (window 3) D (window 4) A

seconds 13-18:

(window 1) C (window 2) D (window 3) A (window 4) B

seconds 19-24:

(window 1) D (window 2) A (window 3) B (window 4) C

Some dedicated listeners eventually became able to determine what operating mode the Woodpecker was in just by The Mark One Earhole, but even so the modes and frequencies would change at random, occasionally to previously-unseen ones. This tended to drive operators crazy, since it was just not possible to 'stake out' a quiet frequency for use when the Woodpecker was out and about.

Vigilante EW

We don't know what, if anything, the U.S. military did about it, although it's likely the woodpecker didn't have much of an impact on the spectrum they used. Western hams, however, did what most disgruntled North Americans would do if a woodpecker started in on their patch - they shouldered shotguns (virtual ones, in this case) and started laying in wait.

Since the operating principle of a radar is to listen for reflected radio energy from its targets, these hams reasoned that they could probably interfere with the proper operation of the Woodpecker if they used their own sets to send back carefully timed pulses of their own which would interfere with any actual reflected radio energy. This they did; for a time, the airwaves and newsletters were rife with people trading ideas, analysis and techniques for 'jamming the woodpecker.' Did it work? To some degree, we can say it did: The woodpecker would react when interfered with, usually by switching modes or frequencies.

This was a truly inspiring find, because it meant that dedicated, frustrated lone radio hams, hunched over their sets at the height of the Cold War, could do

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what the U.S. Government seemed unwilling to do - stick it to the USSR on their own turf. Spoofing the Woodpecker was a delicious means of personal catharsis, since a single ham with a moderately powerful radio could cause major annoyance to an entire enormous Soviet early warning organization. Better yet, groups of hams could, with coordination, drive the woodpecker off the air entirely! It was found that if enough hams staked out frequencies in its known range, and instantly began to spoof it when pulses appeared on their freqs, the woodpecker would (after a time) shut down entirely, briefly. No one was sure why - hypotheses ranged from Soviet operators doing manual-instructed systems tests, to their efforts being interpreted as massive weather interference, or even just plain frustration. Whatever the reason, 'Russian Woodpecker Hunting Clubs' sprang up in the ham community as groups organized to 'peck back.'

The irony of it all was too good to miss, anyhow. Shortwave hams were used to being targeted as the sources of whatever strange interference their neighbor's TV ran into, no matter that they were nowhere near that frequency. In this case, they were actively out to interfere, and not just with a TV but with the Soviet military - and, of course, the Soviets couldn't do anything about it since they refused to admit the signal was theirs in the first place!

Eventually, of course, the Woodpecker was shut down, for whatever reason. Although occasional bursts of interference still fly out of the former Soviet Union, their adoption of standards and Western electronics means that the ability of the Russian military to blithely invade the spectrum is somewhat hampered.

So what was it really?

Turns out that the signals were produced by two massive radar installations which NATO ended up codenaming STEEL WORKS and STEEL YARD, apparently due to their mas-

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sive, open-framework construction. They were known to the Soviets as S-225 ABM-2 systems. They were built to serve as missile launch warning radars. Apparently, when the exhaust plume of a boosting ICBM hits the ionosphere, it causes a localized depletion of ions, which changes the reflectivity of the layer. Hence, the 'backscatter' - i.e. those signals which were reflected back towards the USSR by ground features and objects - would change signal characteristics enough to gather data on said missile plumes.

Global Security says that sources put the power of the radar's transmitters at between 20 and 40 megawatts, which would explain why it caused so many people so much annoyance. The Minsk facility, which may have already been shut down, was abandoned after the 1986 Chernobyl disaster.

As with any potentially fun and interesting enigma, there were (and are) no end of conspiracy theory games that surround it. At times, the Russian Woodpecker has been deemed by the tinfoil-hat set to be a Russian weather-control system, a Mind Control device, a surveillance (as in, listening to your living room) device, beacons for aliens, and of course (since they're electromagnetic and powerful) brainchildren of the late, great Nikola Tesla. That latter might make them death rays, Tesla Globe generators, versions of Wardencliff, who knows. Some of the nonsense is fun to read, but most of it's junk. A great deal of these so-called 'experts' seem to confuse the pulse frequency with the actual signal frequency, leading to statements like this: "The Russian signals are primarily pulsed at the very dangerous 10 Hertz Extreme Low Frequency (ELF)." (from a tripod.com member's site on Tesla) Sigh. Google mind control and Russian woodpecker together, see what you get.

Sources:

* "Radio hams do battle with 'Russian Woodpecker.'" Miami Herald, 1982. Reprinted on the web at <http://www.qsl.net/n1irz/woodpeck.html>

* "The Russian Woodpecker." David

Wilson, Monitoring Times newsletter, 1985. Reprinted on the web at <http://dSPACE.dial.pipex.com/brogers/Wpecker5.htm>

* Personal experience in 1980-82, during ham instruction by Mark (KA2MRE) and as a licensed ham (KA1KTP)

* Documents and texts of the ABM treaty at FAS: <http://www.fas.org/nuke/control/abmt/docs/abm1.htm>

* Global Security online, at <http://www.globalsecurity.org/wmd/world/russia/steel-yard.htm>

ARRL Sacramento Valley Section (SV) News

Ronald D. Murdock, W6KJ
998 Bogue Rd
Yuba City, CA 95991-9221
530-674-8533

The 10th Annual SKYWARN Recognition Day (SRD) Special Event will take place Saturday, December 6, 2008.

<http://hamradio.noaa.gov>

SRD is co-sponsored by the ARRL and the National Weather Service (NWS) as a way to recognize the commitment made by Amateur Radio operators in helping to keep their communities safe. According to SRD Coordinator David Floyd, N5DBZ, Amateur Radio operators can visit their local participating NWS office

http://www.crh.noaa.gov/hamradio/participating_offices.php

working as a team to contact other hams across the world throughout the 24 hour event. The idea for the first SRD took shape in the summer of 1999. Meteorologist-in-Charge of the Goodland, Kansas NWS office Scott Mentzer, N0QE, tried to find a way to recognize the valuable contributions storm spotters make to the National Weather Service. 'Since many of those storm spotters were also hams,' Floyd said, 'it seemed like a natural fit for the recognition to be centered on Amateur Radio.'

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El Dorado County Amateur Radio Club
PO Box 451
Placerville, CA 95667

Club Information 2007

| | | | | |
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| Webmaster | Jay Harmor | KE6GLA | | jharmor@comcast.net |

- ◆ Meeting: Club meetings are normally held on the 4th Thursday of each month (except for June and November), 7:15 PM, at the Federated Church, 1031 Thompson Way, Placerville
- ◆ Club Nets: Tuesday evenings, 8:00 PM, on the AG6AU repeater, 147.825 MHz
- ◆ Mailing Address: El Dorado County ARC, P.O. Box 451, Placerville, CA 95667
- ◆ Club Web Site: <http://www.edcarc.net>