



The ORC Newsletter

Official publication of the Ozaukee Radio Club, Inc. Mail all contributions to the editor, Tom Ruhlmann, W9IPR, 465 Beechwood Dr., Cedarburg WI 53012 (phone 262 377-6945). Permission to reprint articles published in any issue is granted provided the author and the Ozaukee Radio Club Newsletter are credited.



ORC Repeaters on 146.97, 224.18 and 443.750 MHz -
Callsign W9CQO Web site: www.ozaukeeradioclub.org
Facebook: facebook.com/orcwi

Volume XXVV

November, 2012

Number 11

From the President

De Ken Boston (W9GA)

As the days get shorter, and the temperature drops, we are reminded that Thanksgiving holidays are just around the corner, with Christmas not too far behind. Now is the time to put in your request to Santa for that new radio or amplifier! Also remember that soon after the holidays, we will have the PEP party, and a chance to socialize again. Another item to keep in mind is any persons that you may wish to see nominated for our annual slate of officers, or place yourself into consideration. Touch bases with Bill KA9WRL about your ideas.

We have a couple posts open for volunteers which have remained unfilled for some time now, and would love to see someone step forward, for either the post of public information officer, or public service coordinator. Currently, these activities have been covered on a per event basis by one or the other of the club officers. Feel free to help out.

We will be honored this next meeting, the November 14 timeslot, to hear Jim K9QLP present a slide show and tour of the Cedarburg Emergency government mobile unit. This should be exciting, to see where your tax dollars are at work, along with the help of many of the ORC ham participants.

Won't you join us this Wednesday (11/14; 7:30PM) at the Grafton Senior Center. If you have any particular issues or input, bring those along, and let me know before the meeting gets underway.

73 Ken W9GA

DX'ing

De Gary Sutcliffe (W9XT)

Did you take my advice from last month and get on for the CQWW Phone contest the last weekend of October? I hope so. If not, you really missed some good conditions, especially Saturday.

I was concerned because we had a big solar flare the Tuesday before the contest. One of those can really knock out HF conditions, especially on the paths that go over the poles. Most DX contacts in DX contests from around here are to Europe and Japan, and the paths go through the auroral zone.

Charged particles from the sun approach the earth and follow the magnetic lines to the poles. There they cause ionization. Radio waves traveling through this ionization get absorbed. If we have a flare we get a lot more particles. This increases the ionization and the doughnut shaped auroral zone gets bigger and more intense. If it gets really big it will go over us and we can see the northern lights. You can see the current auroral zone at <http://www.swpc.noaa.gov/SWN/>

For best propagation we want a high solar flux index, which track the sun spot numbers. We also want a quiet geomagnetic field. You can get real time values for these at various web sites including the ORC website. Webmaster Brian, N9LOO, put a couple of widgets on the contest page for this. So, look for high SFI (Solar Flux Index) numbers and low A & K numbers which indicate a quiet geomagnetic field for best conditions.

Anyway the big solar flare a few days before the contest was aimed away from the earth. We got the benefit of the extra UV light from the flare which increased the solar flux but didn't get the particles that

cause disturbances. The solar flux was 136 which was good for this solar cycle, and the A & K numbers were 4 and 1 which were fairly good.

I have had a lot of antenna repairs and don't have all my antennas up, especially for the low bands. I decided to do a single band 10 meter effort. Since 10 meters is my favorite band it was not really a hardship. The final numbers in the log were 1186 contacts in 137 countries. I probably heard another 10 countries that I didn't work. I had a couple of hours when I was working stations at around 150 contacts per hour.

Anyway there was a lot of activity on 10 meters. There were DX stations from 28.300 MHz to over 29.050 MHz at times. I hope you took advantage of it all. The only ORC member I heard on was Gary, K9DJT. If you missed it, the CW portion of this contest is Saturday and Sunday of the Thanksgiving weekend.

The DXpedition of the month is to St. Peter & St. Paul Archipelago. These islands are off the coast of Brazil. There are not a lot of DXpeditions there. The last time I worked a station there as 2005. The only other station worked was in 1991, so it is fairly rare. They are expected to start operations on Nov. 10 and continue to November 22. If you are interesting in improving your DXCC totals you won't want to miss this one. This is on a good path so there should be good signals on both ends. Their web site is <http://pt0s.com/>

Finally you might want to check out a webinar on the rarest DX countries this weekend. It is presented by Bernie, W3UR. Bernie publishes the *Daily DX*, a daily email DX newsletter. He also runs the *How's DX?* column in *QST*. The webinar starts at 1:20 PM CST on Saturday November 10, but you have to pre-register at <https://www1.gotomeeting.com/register/655732089>

There is a lot of interesting DX out there this fall. Take advantage of it!

A High Performance Crystal Radio

-by Stan Kaplan, WB9RQR

If you heard my talk on crystal (XTAL) radios at the ORC meeting in August, you know that I have been experimenting with them. I find them fascinating for their ability to let you hear radio stations using no source of power other than the power transmitted by the radio station itself. In its most simple form, an XTAL radio can be constructed with some wire, a piece of galena or other crystal (or even a rusty razor blade!) and, optimally, a variable capacitor or two. After a considerable amount of experimenting, I have come up with one that really works well. This article describes it, and some modifications you can make to make the job easier. Here is the basic schematic:

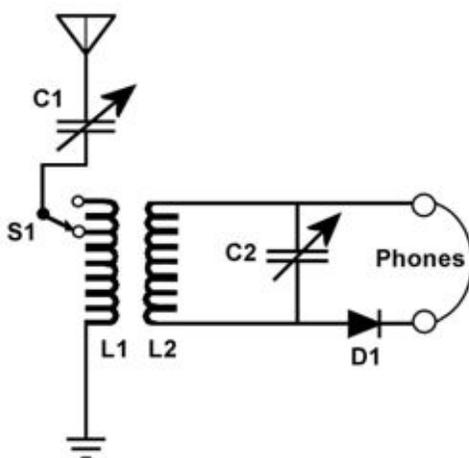


Fig. 1 Schematic.

Two separate coils are used, and part of the tuning process is moving them closer or farther apart. One coil (L1 – the antenna coil) is tapped, and the other is not. Each is about 254 μ H. More on constructing them later. The two capacitors (C1, C2) are 365 pf variables from your junk box. Try and pick high quality capacitors – preferably with ceramic insulation rather than phenolic

or other composition. It can make a difference in performance (keep an eye out for good ones at the next swapfest – I picked up three at our ORC Fall Swapfest for 50 cents apiece). S1 is a single pole, single throw switch to select either the top of L1 or the tap. If you use large diameter wire as I did, you can skip S1 and just use an alligator clip to connect to either the tap or the top of the coil. D1 is a simple 1N34 germanium diode. Experiment with what is in your junk box because many others will work fine, but the diode must be germanium, not silicon. Later, you might want to experiment by replacing the diode with crystals such as galena or other minerals and a “cat whisker”. Or, try a rusty razor blade! The earphones must be high impedance if you use them. I do not – I prefer a simple audio amplifier to drive a speaker.

My coils are each 52 turns of 1.5 mm (about #15 AWG) enameled wire scrounged from old transformers. You can experiment with other sizes, but be sure the wire is insulated with enamel so the turns do not short where they contact. My L1 coil is tapped at 10 turns. You can experiment with close-wound coils per the days of the oatmeal box crystal radios, but if you do, be sure to use a plastic form, not cardboard. A section of PVC pipe will work. My coils are about 115 mm (4-1/8 inches) in diameter, but they are not close-wound. They are rook-wound, which results in a coil with a lot of air between the wires, thus reducing the capacitance between a wire and its neighbor and increasing the Q. To wind a rook-wound coil, you need a special form, which you must construct.

Here is how. Find a sheet of polar coordinate graph paper, marked in 360 degrees. At about 2 inches from the center point, mark dots at 11 equally spaced points around the circle (go for 11, but it must be an uneven number if you want to play with other values). This works out to approximately 0, 16, 33, 49, 66, 82, 98, 115, 131, 147 and 164 degrees around the circle for 11 equally spaced points. Attach the graph paper to a scrap sheet of wood, and drive nails into the wood at each point. Use nails with the heads cut off, so that you can slide the coil off when done, and use care to make the nails as nearly perfectly vertical as you can. Now you can wind the coil. Start at any nail and wind under the next two, then over the next one, then under the next two. This over 1 – under 2 pattern continues until you have about 52 turns. Count the turns at a nail and ignore any that don't go over that nail. Don't forget, in the case of L1, to clean the enamel off a spot on turn 10 and solder a wire in place for the tap. When done, carefully glue the turns between the nails where wires cross each other and let it dry thoroughly. I use epoxy but hot-melt glue will work fine, too. But be careful not to use excessive amounts – the glue can degrade performance. When ready, carefully slide the completed coil up off the nails.



Fig 2. Two different views of L1. On the left, the large amount of air space between the windings can be seen, a desirable characteristic of rook-wound coils that leads to less capacitance between windings and a higher Q. On the right, the coil pattern is evident from the over 1 – under 2 winding. I used nylon thread to tie the windings together before sliding the coil off the winding form. Then I used a narrow band of epoxy on the outside of the coil to anchor the windings permanently.

I mounted my two coils on two dowels held in a cradle, as shown in the next photo (Fig 3). This allows me to slide the two closer together or farther apart during the tuning process. Start with yours close together – that will give the loudest signal. But when tuning in a weak station and suppressing a loud neighboring station, moving them apart will help a lot. The name of the game is experimenting with the settings.

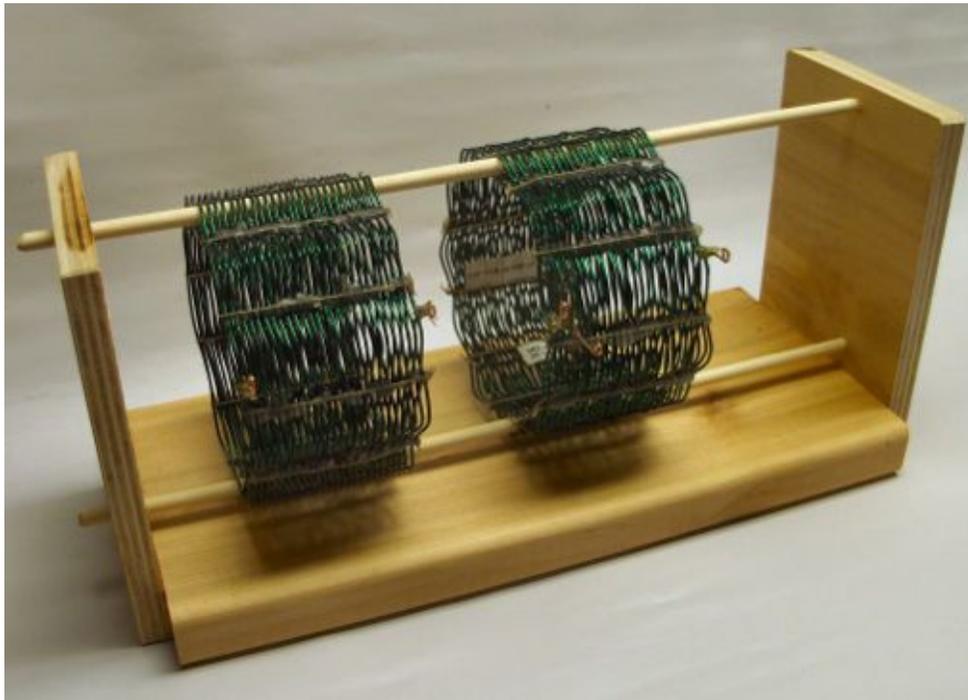


Fig. 3. L1 and L2 mounted on a cradle. Dowels through the openings in the windings allow the coils to slide. The dowels can be removed to allow taking the coils off the cradle for experimenting with different coils. The base of the cradle is 12 inches long.

Tuning consists of finding a station and peaking it by moving the coils and twiddling with the settings of the two capacitors. S1 will get you to different regions of the broadcast band. If the tap is selected, a higher frequency portion of the band will be heard (up near 1600 kHz or higher), while the full coil will bring you down closer to 550 kHz. See how many stations you can log. What a terrific winter evening project! Let me know if you have any questions.

Computer Corner

No. 176: ARES/RACES

Stan Kaplan, WB9RQR
715 N. Dries Street, Saukville, WI 53080-1664 (262) 268-1949 skaplan@mcw.edu

I am departing from my usual technical writing to send you a message. I think it is important. Please take the time to read it.

ARES and RACES are very different organizations with a similar mission. The mission is reliable backup communications. In Wisconsin, one group and one leadership serve both. Since 1999, every member of Wisconsin ARES is also a member of RACES and vice versa.

ARES (Amateur Radio Emergency Service) is a volunteer group within the ARRL, a private organization. RACES (Radio Amateur Civil Emergency Service) is a governmental-sponsored organization, now under the Federal Emergency Management Agency (a branch of Homeland Security). RACES is controlled by each state's Emergency Management department.

In Wisconsin, nearly every county of the 72 has an ARES/RACES unit. The hams in these units

organize and train to serve with backup communications whenever their communities, or their neighbor's communities, are in need. These needs have surfaced many times in our state, during tornadoes, floods and other severe weather events, during fires and explosions, during massacres, during sinking of ships and during many other types of events. We have provided backup communications whenever called on by first responders and other governmental agencies, and often we have provided communication links when the agencies we serve cannot. ARES/RACES groups are important, and a Good Thing.

Most hams in our state are somewhat aware of the ARES/RACES organization. Many think **“Well, I don't really need to join ARES/RACES, but I will be here to help in case of emergency. After all, I am a ham and know how to operate my rig – that is all that is really necessary.”**

That may have been true years ago, but it is no longer true. Today's ARES/RACES units train as communicators who learn how to communicate with and between governmental agencies. And, that type of communication is quite different than how we communicate as hams. Moreover, ARES/RACES hams **must** be familiar with the Incident Command System (ICS), used by all first responder and emergency support organizations in the US. Federal law mandates this training.

Right now, every first responder (**including volunteers such as ARES/RACES personnel**) **must** be certified in ICS and also NIMS (National Incident Management System), an emergency management doctrine used throughout the country by first responders.

What does this mean to hams? In case of an emergency, if you are not a member of an ARES/RACES group with the appropriate training and certifications under your belt, you will not be able to help. It will simply be against federal mandates to have you to participate during an emergency, and you will be asked to stand down. Bummer!

The solution? It is really easy, and it can be interesting and fun! Join your local ARES/RACES group. Learn the lingo and become certified. Participate in training nets. Work the annual SET (Simulated Emergency Test). Volunteer to help the group as you can, when you can. You will be training to better help your neighbors, and yourself. That is my message.

Hams Hunting Foxes

De Janice Hoettels, KA9VVQ

If you ever find yourself seeking new ham radio adventures, why not consider fox hunting? Fox hunting, which is also known as transmitter hunting, involves radio direction finding. A fox hunt is a special type of ham radio contest. Someone (the “fox”) hides one or more small, low-power transmitters in a local park or other recreation area and the rest of the ham radio operators (the “hunters”) use direction finding equipment to locate the transmitter. The ham that finds all the transmitters in the least amount of time is the winner! Skills obtained in this "radio sport" are also useful in real-world applications, such as finding a lost hiker or tracking down nuisance transmitters (interference). Equipment needs are minimal, are easily obtainable, and make for good homebrew projects. All that is needed is a 2-meter handheld transceiver (HT) with a good built-in signal strength meter (S-meter), a good directional antenna for checking the bearing to the “fox”, and a variable attenuator to keep the received signal strength within the range of the HT's S-meter. As can be seen in the photo (left), the antenna is made from inexpensive materials that are easily obtainable from a hardware store. Plans for constructing the antenna are available on the Web (see http://theleggios.net/wb2hol/projects/rdf/tape_bm.htm).



Fox hunting equipment: homebrew handheld yagi antenna and HT with attenuator attached.

Various plans for homebrew attenuators are also available on the Web, and there are many commercially available attenuators for fox hunting as well. Kits that include all the parts for the antenna and a pre-assembled attenuator are also available

(see <http://www.west.net/~marvin/complete.htm>).

One active, local fox hunting group is the Milwaukee Fox Hunting Club (MFHC). The MFHC holds a fox hunt every month, usually on a Friday evening or Saturday morning. The date, time, and location of the hunt are announced by email by the club's leader, Paul Gruettner, WB9ODQ. So if you'd like to take part in a hunt, you need to get on the email list! Let me (KA9VVQ) know of your interest, and I'll make sure that Paul adds you to the list.

The MFHC's most recent fox hunt was held October 20th at the 140 acre Glacier Hills Park in Hubertus near Holy Hill. Yours truly (KA9VVQ) was the fox for this hunt, and I hid 4 transmitters throughout the park. The location of the hidden transmitters is marked on the Google maps satellite image of the park below. The park lived up to its name, giving everyone a workout, with all of its rolling hills. The first transmitter was hidden in a notch of a fallen tree, on the slope of a hill. The second transmitter was covered with leaves, hidden at the base of a small bush. The third transmitter was hidden at the base of a pine tree in the pine forest section of the park. Finally, the fourth transmitter was hidden at the base of a bush, at a tree line, just off the picnic area. Paul,

WB9ODQ, took first place honors, finding all four transmitters in just 45 minutes. The longest hunt time topped out at 120 minutes. One hunter, Bernie, WA9BFH, had an unfortunate stumble and ended up falling into a shallow pond. However, in true fox hunter fashion, even though he ended up getting pretty wet, he kept his fox hunt equipment dry at all times!



Location of the "foxes" (transmitters) during the Glacier Hills Park fox hunt, October 20, 2012.



Members of the Milwaukee Fox Hunt Club at the Glacier Hills Park Fox Hunt, October 20, 2012.

As can be seen in the photo, the MFHC is a very dedicated, though small, group of fox hunters. And we'd love to have more hunters join our group! If you'd like to try your hand at this unique amateur radio activity, be sure to let me know (see the ORC club roster for my email address and phone number). The MFHC is happy to lend newbies some equipment for their first hunt, and we'll show you the ins and

outs of effective fox hunting. The next hunt will be in December. Date, time, and location will be announced soon via the club's email alert system.

Ozaukee Radio Club Field Day Results

De Leon Rediske (K9GCF)

The Ozaukee Radio Club this year came out very well in the Field Day Radio competition.....we were 5th in the world with a high score in our category, that being 4 transmitters, emergency power. We're proud. We have a real group that someday may have to handle these messages in an emergency, and we have the trained people and the equipment to do the job.

For the past 12 years, our club has been in the top 10 entrants every year. We get assistance from people that can help with donating our grounds, folks that help with generators, individuals that donate their time for building equipment, engineering the grounds, engineering our computer networking ----- and implementing the cables and equipment to accomplish the job of scoring from all our stations.

We really appreciate those people and their unselfish donation of their talents to the whole group. We have folks that provide the beverages, food, cooking, and clean-up to support the rest of the operators, construction and dismantling groups, the storage folks that put our equipment back in storage for the next time we need it. We have a crew that sets up the generators, monitors their operation during the contest, and rolls up the cables and stores them for the next time we deploy it.

We also have band Captains that manage the equipment, the operating personnel, and the set-up and storage of the equipment and antennas. In addition, several folks handle the Public Relations and Promotions before, during, and after the eventand even taking the raw computer data and submitting it to the folks that do the scoring.

In all, we have a wonderful group of hams and non hams that produce the finest communication weekend in the land. I am tipping my hat to all those that helped make Ozaukee Radio Club's 2012 Field Day the best ever! If you see these folks, please recognize them for the wonderful weekend they are part of the Ozaukee Radio Club's Team, and that is part of the club that creates the 5th best Team in the world.

If you haven't joined with our team this year, please join with our winning team, making next years Field Day even bigger and better than before.

Leon Rediske, K9GCF

Minutes– October 10th, 2012

De Janice Hoettels (KA9VVQ), Secretary

President Ken Boston, W9GA, called the meeting to order at 7:30 p.m. Members present then introduced themselves.

Announcements/Show-and-Tell:

Stan Kaplan, WB9RQR, showed us CD-ROM crystal radio set he built based on the AC7ZL design (photo 1). Members interested in replicating this uniquely designed crystal set can learn more at <http://www.hpfriedrichs.com/rr-cdrom.htm>.



Photo 1: WB9RQR's CD-ROM-based crystal radio based on the AC7ZL design.

Gary Drasch, K9DJT, showed us an RF sniffer he built to hunt down TVI problems with his AT&T U-verse set-up. It worked well enough to help him sort out his TVI problem (photo 2).



Photo 2: K9DJT's homebrew RF sniffer.

Bill Howe, KA9WRL, demonstrated his VHF go-station that he uses for portable and EMCOMM operation (photo 3). Bill also mentioned that a friend of his recently bought a Realistic DX-300 receiver (circa late 1970s) for \$6. Apparently this is a sought after receiver for those involved in rig restoration. Bill mentioned that that usually go for \$50+ on eBay and hamfests.

Ken Boston, W9GA, brought a copy of the recently issued FCC report studying the value of amateur radio emergency communications. A big focus of this report was to make recommendations about removing various impediments –including CC&Rs—to amateur radio communications. Members who would like a copy of the report should see Ken.

Program:

Tom Ruhlmann, W9IPR, gave a presentation on “Raising Boat Anchors” ...i.e., restoring old radios, typically from the 1940s through the 1960s, that often weighed upwards of 40 lbs due to all the tubes and whopper capacitors inside. Tom is an avid restorer himself and demonstrated some of his restoration techniques and their final results on radios he has restored (photos 4a and b).



Photos 4a and b: W9IPR discussing “boat anchor” restoration techniques during the ORC club program.

50/50 Raffle: Dick Holt, AB0VF, won the raffle.

Auction: Stan Kaplan, WB9RQR, played the role of auctioneer once again during the meeting. Half the proceeds go to the club's scholarship fund and half go to OZARES.

Business Meeting:

President's report: Ken Boston, W9GA, discussed recent efforts by a small, intrepid group of ORC members to clean out the club barn. Ken noted that a lot was accomplished, but that there is still more to do. Another shorter clean-up will be needed. Ken will arrange this in the near future.

1st VP Report: Art Davidson, AC9CD, asked members to start thinking about what they would like to do for the Post Everything Party (PEP). The PEP is usually held in late February or early March. While this might seem a long ways off, planning for such an event does require considerable lead time. Contact Art if you have some suggestions.

2nd VP Report: Brian Skrentny, N9LOO, discussed the recent ORC fall swapfest and thanked those members who helped out and made the swapfest a success. This year the swapfest had great weather and considerably better attendance than previous years. The swapfest committee members and those members who attended the swapfest agreed that holding the swapfest on the last weekend of September worked out well and should probably be the weekend used for future fall swapfests.

Repeater VP Report: Tom Trethewey, KC9ONY, reported that all the repeaters are in working order, though not well utilized by the membership.

Secretary's Report/Minutes: Nancy Stecker, KC9FZK, motioned to accept last month's meeting minutes. Dave Barrow, N9UNR, seconded the motion, and the motion passed.

Treasurer's Report: Dave Barrow, N9UNR, noted that the September ORC Income & Expense Report was sent by email to the club's members. Any members with questions or who want more detail should contact Dave. Dave noted that the fall swapfest was profitable this year to the tune of \$651.31. Tom Ruhlmann, W9IPR, made a motion to accept the treasurer's report. Nancy Stecker, KC9FZK, seconded the motion and the motion passed.

Committee Reports:

Ed Rate, AA9W, noted that the club's scholarship table did very well at the swapfest, with a profit of \$822.

Dave Barrow, N9UNR, the club's treasurer, noted that Ed Rate has requested a separate scholarship checking account at Educators Credit Union so that scholarship equipment sales on Ebay could be paid for via Paypal, which requires a checking account. Since all the members of the club's board were present at the meeting, Dave asked that a vote be taken to allow Ed to open this account. The board agreed unanimously by voice vote to allow Ed to do so.

Tom Ruhlmann, W9IPR, commented that the 4th Technician class has been held. Two students, both club members, remain in the class and both should be ready to take their test at AES at the end of October.

Jim Albrinck, K9QLP, mentioned that the Cedarburg Fire Dept., which owns Firemen's Park where the ORC fall hamfest is held, has invited the ORC to participate, free of charge, in Maxwell Street Days,

which is held 4 times a year at the park. This is a large event with over 900 spaces available to rent. Depending on weather, crowds vary from 5,000 to 20,000 or more. No admission is charged. Dates are: Sunday of Memorial Day weekend; third Sunday in July; Sunday of Labor Day weekend; and the first Sunday of October. Jim noted that, if we choose to participate, it would be great exposure for our club and would allow us to sell some of the equipment donated to the club for the scholarship fund.

Old/New Business:

Tom Trethewey, KC9ONY, reminded the club that the SEWFARS hamfest is Sunday, October 14 at the Richfield Chalet in Richfield.

Adjournment:

Dave Barrow, N9UNR moved and Leon Rediske, K9GCF, seconded the motion to adjourn the meeting. At 9:25 p.m. the meeting was adjourned.

Members signing the attendance sheet: 43, below:

Kate Hole, KB0SIO; Nancy Stecker, KC9FZK; Stan Kaplan, WB9RQR; Richard Holt, AB0VF; Nels Harvey, WA9JOB; Brian Skrentny, N9LOO; Jerry Rauth (no callsign); Tom Nawrot, AA9XK; Terry Koller, KA9RFM; Robert Frank, N9NRK; Tom Trethewey, KC9ONY; Ron Underwood, KC9DKQ; Ben Smith, KC9TQM; Mark Fielkow, KB9PXE; Todd Fast, N9DRY; Gary Klupper, KC9EOV; Cliff Kollross, KC9RNV; Julia Nawrot, KB9WBQ; Tom Murtaugh, W9VBQ; Glenn Classey, KC9UHP; Art Davidson, AC9CD; Ed Frac, AA9WW; Gary Sutcliffe, W9XT; Ray Totzke, W9KHH; Vince Morano, KB9ZOT; Ron Yokes, W9BCK; Janice Hoettels, KA9VVQ; Bernie Golownia, AA9CI; John Strachota, W9FAD; Gary Drasch, K9DJT; Jim Albrinck, K9QLP; Leon Rediske, K9GCF; Kent Christiansen, N9WH; Ed Rate, AA9W; James Zevalkink, KM6X; Mark Wolski (no callsign); Dave Barrow, N9UNR; Jon Gilmore, KB9RHZ; Kristian Moberg, KC9TFP; Paul Given, N9PG; Bill Howe, KA9WRL; Tom Ruhlmann, W9IPR; Ken Boston, W9GA

AGENDA

November 14, 2012

1. 7:00 – 7:30 PM – Network & Rag Chew
2. Call to order: Ken Boston (W9GA)
3. Introductions.
4. Announcements, Bragging Rights, Show & Tell, Upcoming events, Etc.,
5. Questions and Answers:
6. Program: Emergency Government – Jim Albrinck (K9QLP)
7. 50/50 – Kent Christianson (W9WH)
8. Fellowship Break
9. Auction – Stan Kaplan (WB9RQR)
10. Presidents Report – Ken Boston (W9GA)
11. 1st VP Report – Art Davidson (KC9PXR)
12. 2nd VP Report – Brian Skrentny (N9LOO)
13. Repeater VP report – Tom Trethewey (KC9ONY)
14. Acceptance of Minutes – Janice Hoettels (KA9VVQ)
15. Treasurers Report: Dave Barrow (N9UNR)
16. Committee reports.
Technician Training: Tom Ruhlmann (W9IPR)
Other:
17. OLD BUSINESS
18. NEW BUSINESS
19. Adjournment to ?

Return undeliverable copies to

The ORC Newsletter

465 Beechwood Drive
Cedarburg WI* 53012

First Class

Next ORC Meeting

Grafton Senior Citizens Center

1665 7th Avenue, Grafton
Wednesday, November 14th

7:00 PM – doors open

7:30 – Membership Meeting