



# The ORC News -

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.



AMATEUR RADIO

**ORC Repeaters on 146.97, 224.18 and 443.750 MHz -  
Callsign W9CQO      Web site: <http://www.qsl.net/orc/>**

Volume XXIII

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## The Prez Sez

By Vic Shier (KB9UKE)

Surprise! Everyone likes to hear that word. Whether it's a birthday party or a present; a new car or a bouquet of flowers, a pleasant surprise is sweet and can bring a smile to your face for years to come. I have had such a surprise.

Five years ago I received my Certificate of Successful Completion (CSCE) and was soon to be a FCC licensed amateur radio operator. Although I was quite nervous, I expected I would pass. I also knew that I would soon be using radios to transmit instead of just listening. Propagation, printed circuits, antennas, and operation procedures were all things that I would need to learn and I expected that too. There was no surprise there. Eventually I would upgrade and the learning curve would continue. My skills would improve with time and I suppose at some point I would be considered an "Elmer." None of this was a surprise.

My surprise lay deeper than that. My interest was solely in the electromagnetic field and the concept of wireless communication. The people on the receiving end? Who are they? That never crossed my mind.

It turns out that ham radio operators are a wonderful pool of like-minded people who have the potential to become close friends. When I look at the signatures on my very first CSCE I see the call signs of; WI9M, WA9JOB and WQ9N. Two of these people have become friends of mine and the third is someone that I would like to know better.

Over these last 5 years I have made more friends than I have in the last 20 years. That

was my surprise. Just counting the friends I have made in the Milwaukee area would make a long list not including the people I have met in Wausau, Minnesota, and Northeast Wisconsin

This was my surprise. It never occurred to me that I would make dozens of friends in such a few years. Radios are fun and friends are great!

73's and remember...It's a hobby and what a hobby it is!

## Contesting

De Bob Truscott (W9LO)

Back in the 60's there was a series of phone and CW contests every year called CD Parties, CD meaning the Communications Department of the ARRL. As I recall they were short contests, formatted much like FD as we know it today, where everyone could work everyone else. They were quite popular and many of us used the CW contest in April as a FD warm-up because in those days there weren't many contests between November SS and FD, and, we needed to shake the cobwebs out of our brains. Unfortunately those contests disappeared quite some time ago—don't know why, they just did. But the idea of a FD warm-up contest still lingers, so I looked for a substitute. Didn't find one for phone, but did for CW. It's the CQ World Wide WPX Contest, on May 29-30, starting at 0000 GMT on Saturday ( 7 PM Friday local time), and ends 48 hours later. At first glance it appears to be a DX contest, and it is, but you can also work anybody anywhere, which makes it attractive to people like us who just need a little practice before the big one in June. 160 through 10 meters, except for the WARC bands. If you want to work some DX, try 10, 15 & 20 , and hope for an opening. You

don't need a beam to work those guys—wire antennas or verticals do just fine, and on 40 or 80 your dipoles are great for the US and Canada. Don't expect to win a contest like this unless you have a super antenna farm, but do jump in for a few hours and have some fun. You might be surprised how much the club FD score will improve if we all do that. Give it a shot. Short form rules in March QST, page 100. Long form (6 pages) and paper log and summary sheets at [www.cqwp.com](http://www.cqwp.com).

Official results of the CW Nov. SS, reflecting deletions by the Cabrillo log checking system are in:

<u>CALL</u>	<u>SCORE</u>	<u>QSO's</u>	<u>SECTIONS</u>	<u>CLASS</u>
N9FH	160,844	1018	79	U
W9LO	106,548	683	78	A
W9XT	52,640	376	70	A
W9KHH	24,644	202	61	A
KB9UKE	11,554	109	53	B

Wisconsin QSO Party:

K9QLP (Phone) 129 Q's 16 States 35 Counties & Provinces

Have fun contesting.

## ANTENNA TUNERS-PART 2

De: Leon Rediske, K9GCF

Now we know that antenna tuners don't tune the antenna, from reading part 1 written by Earl K4FQU. All that antenna tuners really are, is a variable RF transformer matching what the transmitter wants to see (50 ohms) to what the antenna & feedline are actually producing in the hamshack. Are their different types of tuners? You bet your bippy! Generally there are 3 categories of tuners:

#1 is the tuner one finds inside a new HF transceiver. It is compact, and automatic in function, the ham doesn't need to do a thing except select it "on" from a menu or switch. The trouble with these types is they typically won't match more than a 3 to 1 SWR. That is, the 50-ohm

transmitter can be matched to a 150-ohm load (50 times 3) or 1/3 of 50 ohms, which is 17 ohms. So the range it can match is 17 to 150 ohms. If antenna system presents a higher or lower impedance than that, the tuner can't handle it. I seldom use mine, due to the narrow range of impedance's it can match, .....but there is one in my fancy FT-1000 Transceiver. These tuners can only handle the power output of the transceiver, typically 100-Watts.

Many times the cost is buried in the transceiver if you are talking high end radios, and cost an additional hundred or two in your Icom 706 MK 2 G.

The 2<sup>nd</sup> type is a manual tuner, so the ham actually tweaks knobs and switches on this baby. This tuner is contained in an additional box requiring room on the desktop. However, these tuners can match the transmitter to the antenna over a very wide range of impedance's.....the widest range of any tuner type.



Various "manual" antenna tuners as built by Dick (K9CAN), Tom (W9IPR), Ed (AA9W) and Ray (W9KHH)

I have one of these in my shack. I use it to match my G5RV dipole on any band. Many of these tuners offer balanced feed (2 antenna terminals) as well as the usual unbalanced 50 ohm coax feed. These tuners can match to balanced feedline, usually 300-ohm TV type twin lead or 600-ohm open wire feedline. Plastic ladder line is typically 450 ohms impedance,

and these manual tuners do a fine job of matching this impedance as well.

If these tuners are designed for it, they can handle Kilowatt power levels. These are big boxes, mine measures 13" wide, 9" high, and 17" deep. It is the Super Super Tuner by Dentron, 3 kW rated, and no longer made. Alternatively, tiny manual tuners are built to handle QRP power levels of 5 watts or less.

Some manual tuners offer harmonic reduction as well as matching. This is useful to reduce or eliminate interference to TV's & other electronics.

Unfortunately not many ways of wiring tuners offer harmonic reduction, and even though it is wonderful to have, it does reduce the range the tuner can match. Therefore, most, if not all, of the tuner manufacturers, use circuits that will match a wide range of antenna systems, and to heck with the Television interference troubles. (harmonic reduction) That's your problem.....use a low pass or bandpass filter. These tuners cost about \$150 for a 250 watt model.

Because the old Johnson Matchboxes (circa 1950's) do offer harmonic reduction, they bring a hefty price on the ham market today. Many of those matchboxes are over 50 years old, but still command a price greater than what one can buy a new tuner with cross needle metering & all the bells and whistles.

The 3rd type of tuner is the automatic external type. This is an electronic computer controlled box that is usually mounted outside near the flagpole antenna, or even hung in the center of a dipole antenna. They are typically sealed from the elements.....therefore can be mounted outside IN the elements. They can be switched by a cable from your fancy transceiver or they can sense RF and control themselves. Sometimes folks mount these tuners in the back of their pickup trucks like Gabe Chido, WI9GC, has done with his. His matches a 102" whip, and allows him to operate on most all HF bands. These tuners can handle a moderate

range of impedances but cannot handle 1-Kilowatt power levels. A 250-watt model costs from \$400 to \$600 & more. Boaters use automatic external tuners to match a whip antenna in the case of a powerboat, or to match the backstay in the case of a sailboat. SGC makes one model where the whip is attached to the box of the tuner. Just strap it to the side or top of a vehicle, and feed it your RF. Great for rental & leased cars.....and it leaves no holes.

Even though they are variable RF transformers, ham radio has called them antenna tuners from year's back. It is really an incorrect term, but we are going to live with it for some time to come. Call 'em what you may; matchboxes, antenna tuners, trans-match or whatever, they do a necessary matching function between the transmitter and the feedline.



**An interesting program was presented at the April meeting by KB9URH (Peter Schmidt of Schmidt Electric) as he discussed the implications of the NEC (National Electric Code) on amateur radio station grounding.**

## **Antenna Restrictions in your Community or, *How to get the City Fathers to see your views***

De Ernie Swanson, K9LO

Recently the City of Omro, Wisconsin wanted to enact an ordinance to severely restrict antenna and towers within the city. This included amateur radio. The process took about 10 months to get a reasonable ordinance written which would give the amateurs reasonable accommodation of tower and antenna structures. The road was not smooth.

Be alert to what is going on within your community government. Ordinances are written and brought to the floor of council meetings quietly with hopes of passage with little opposition. This happened in Omro. One of the council members notified me that this issue was being brought up at the next meeting. Prepare to speak up at the council meeting. You need to convince the city fathers that the ordinance has severe problems. You also need to let them know that the rights of the citizens of the community are being violated with restrictions to receiving antennas. You need to present copies of Wisconsin Antenna Act 50 and 47 CFR 97.15 of the FCC Amateur Service rules and PRB-1. This will alert the council as to reasonable accommodation under the law.

You will need to go to authorities whom amateur radio supports. This should include Emergency Managers, Red Cross officials, and other supported organizations. Get them to the meetings to plead your case in the public interest. If they can not attend, get a written statement to be presented at the meeting(s). You need to make amateur radio existence look very important to the public sector. Include as many examples of public service as you can. Do not forget SKYWARN. They remember the high winds, hail, and the tornado warnings. Tell them how the warning process works. Include the part radio amateurs should I say "professionals" play. Tell the council about recognition government has given to hams. Bring along copies of presidential and gubernatorial proclamations. The

city will then know that they are dealing with a decorated proud organization.

Bring in articles relating to amateur activities of September 11, 2001. They will remember the incidents.

Call fellow hams in the community. Bring them to the meeting. Let them tell the story. Let them be recognized even if they are too timid to speak up. Numbers do count. This shows that you are not alone in your plight.

If the argument about safety comes up, let the council know that the tower erected is safer than the new homes of the community. Site the fact that towers can survive winds in excess of 100 miles per hour. Remember that the uniform building act states that a new home only needs to survive a wind of 55 miles per hour for five minutes. Which is safer? Let them judge for themselves. Also, give the argument for dipoles between two trees. Is the tree a tower?

Last of all; let someone famous tell the council all about Amateur radio. Show the five minute video [Amateur Radio Today](#). Walter Cronkite does a wonderful job of telling the story. What is shown in five minutes, would take me an hour. Yes, this video sums up amateur radio. It will drive public service home.

Remember to see which councilmen on your side. Take them to lunch or see your shack. Get them to propose amendments which will give amateur radio reasonable accommodation. Negotiate reasonable settlements that causes the council to save face but further our cause. If you lose 10 feet of height but makes the law fair to all; that is a victory. We have a law that has a height limitation of 60 feet for all radio amateurs and citizens using receivers.

You can make a difference in your community. If the law is not reasonable, either take it to court or legislate an amendment to get reasonable accommodation. The federal and state gave you that right. These tools will get the job done. Remember candy works better than the lash!

## Upcoming Events

June 19 & 20 – West Bend Airshow and Car/Motorcycle Exhibit

July 10<sup>th</sup> – South Milwaukee Radio Club Swapfest

## Club Static

Chris, one of our new members from West Bend is hosting a 440 net following our usual Tuesday evening 146.97 net. It is a little different in that each evening there will be a different technical topic for discussion.

There will again be an airshow at the West Bend airport on Fathers Day weekend. This would be a great opportunity to set up an operating station and perhaps gain the interest of a few more aviators and spectators in “Ham” radio and the ORC. Would you like to organize this tent etc.?

Contact Tom Ruhlmann, W9IPR, for more information. Also, if you would like to volunteer to assist with the varied tasks at the airshow just contact Tom.

## Community Service

De Nels Harvey, WA9JOB

I think we all know several of our members are, or have been very active in their own communities, and the County. For example, Jerry Walker, KB9IMH, is ongoing as a County Board member. Sandy Wirth, W9BTN, has recently retired from the County Board, where he was the Chairman, and Dave Barrow, N9UNR, was recently elected to the Board. Dave had been the Constable for the Town of Cedarburg, and Tom Ruhlmann, W9IPR, has served on the Town of Cedarburg Board. I was very pleased to see credit given to our own Cindy Douglas, KA9PZG, in the Easter Sunday Milwaukee Journal, Sentinel. Cindy has been very active in Saukville affairs. She is now the President of the Saukville Area Historical Society, and has been very active in church and in the river

cleanup efforts over the years. She finds time for the Saukville Emergency Government and OZARES and somehow finds time to shepherd school kids across the streets at dangerous intersections in town as a crossing guard. Cindy has long been very active in our Club affairs as well. She and Skip have taken care of the Field Day kitchen chores, and our annual corn roast often benefits from her help. While she is a very busy businesswoman, she finds time to volunteer at just about every event needing her services. It isn't her way to claim notability like some others might, but rather too simply get the job done. Thank you Cindy! 73, Nels....

## Just Another Shack

De Todd Sprinkman

This month's Just Another Shack Visit is with Gene (KB9VJP) and Carol (KC9CBC) Szudrowitz.

Gene and Carol both grew up on Milwaukee's northwest side. Gene recalled helping to build the ham shack for his Boy Scout troop back in the 1950's. He also recalled the various crystal sets and speakers he had all around the house growing up.

Gene was in the Navy from 1957-74, and then the Army reserves from 1974-86. During his stint in the Navy, Gene spent time in electronics school, working with early computers and with the National Security Agency. In the Army reserves, Gene held the rank of 1<sup>st</sup> sergeant.

Gene and Carol married in 1967 and moved to Cedarburg in 1969. In 1970, Gene decided to join the Cedarburg Fire Department. This occurred in an unusual and humorous way. One New Year's Eve, the Szudrowitz's were grilling out on a snowy evening. The whole scene was illuminated by an outdoor spotlight.

Neighbors saw the smoke and swirling snow and combined with the bright light, they were convinced the Szudrowitz residence was on fire. Firefighters arrived and were relieved to see the surprised couple assure them everything was fine. Gene was so impressed with the FD's response that he became a firefighter himself. Gene remains with the CFD to this day.

Carol is a special education teacher with Nicolet High School. Carol and Gene have 3 children and 3 grandchildren.

Gene had enjoyed SWL'ing for most of his life, but had never actually gotten his ham ticket. In 1999, freed from the CW requirement, he became licensed. Carol got her ticket in the summer of 2002.

Together, Carol and Gene are involved in a variety of public service aspects of hamming. They also serve the ORC in important ways.

Gene is involved with severe storm spotting. He also is part of a committee that coordinates radio comms for St. Mary's Ozaukee hospital. This is part of his commitment to ARES.



**Carol Ann (KC9CBC), our Secretary and Gene (KB9VJP), our Swapfest Chairman share a few moments in their shack with the ICOM 706.**

Carol is in the 2<sup>nd</sup> year of her term as Secretary of ORC. She also helps provide sustenance for the Field Day team. With Carol, Jane Rediske and Julia Nawrot, the cook tent at FD is in capable hands.

Together, Gene and Carol have helped coordinate events such as Fish Days, the Grafton Christmas Parade and The Miller Ride for the Arts.

Gene and Carol are going to be particularly busy this weekend. Gene is in his 4<sup>th</sup> year of running the ORC swapfest held at Circle B. When I asked him to comment about his service

for the swapfest, he simply asked me, "Do you want to rent a table?"

The Szudrowitz's are an Icom family. The main rig is a 706 MkII G. This is connected to a Comet tribander for VHF and to a longwire on the HF side. Gene still enjoys SWL'ing and keeping an ear to the HF side of hamming. Carol and Gene have Icom HT's and Icom rigs in the car.

## **Should the 220 Repeater Get a Power Boost?**

Please come prepared to discuss the 220 repeater at the MAY ORC meeting. The following facts were asked for by Vic to aid in the discussion. Dick, K9CAN, and Gregg, W9DHI, are assisting in accumulating the data needed.

Facts about the Club's 220 repeater are as follows:

Local users:

W9BTN, K9CAN, AA9CI, KA9DDN, WA9JOB, N9PMR, KA9PZG, N9QA, K9QLP, N9UNR, AA9W, WB9RQR, WA9JMS, AA9WW (?), N9LLT, KY9P, N9LOO, W9XT, N9PSN, plus new members whose calls are not on this list.

Activity increases substantially when the 10-meter link is operating.

Activity increases substantially when the repeater can be heard well in Milwaukee.

The 4-CX-250B amp works.

The 4-CX-250B amp is noisy to work around.

The amp is unsafe to place where people not used to working with voltages > above 500 volts are located.

A cage around the amp would provide necessary safety and security.

A cage was suggested at the time the repeater was removed from Germantown with no action.

The amp does not use a bleeder for reasons of heat and power consumption. It could be added.

Currently a link receiver and voting system are being integrated into the 220 repeater.

Currently there are plans to link the 220 with 146.970 for nets.

An amplifier is needed to take full advantage of 220. It is not important whether we incorporate the present tube amp (with safety concerns) or a solid state unit.

Information prepared by Dick, K9CAN

## Minutes – April 14th, 2004

De Carol Szudrowitz, KC9CBC

**Call to Order and Announcements:** The Technician's Class has begun. Tom W9IPR said others could still join and reminded all that you can encourage friends and others interested in radio work to join. Most people get interested when you, the experienced ham, encourage them. That brings more new life into our club than advertising.

In Omro, Ernie K9LO got involved with the city politics. He had to contact council members to get equity and reasonable accommodations for erecting a new tower. See the article in the newsletter. He said it is worth the effort to educate the public.

**Program:** Peter KB9URH received his Master Electrical Certification recently. He was kind enough to share some of the codes that apply to the installation of ham radio equipment. An interesting handout dealt with receiving equipment, antennas and clearances for receiving stations. Peter especially emphasized the importance in grounding your equipment and antennas correctly.

**Auction:** Stan WB9RQR held the auction.

**Business Meeting:** The **Secretary Report** and **Treasurer Report** were approved as printed.

**Repeater Report:** the audio went up and down for awhile depending on which receiver was being used. Problem was in the repeater shack. It is fine now. The 220 is back out after getting the PL capability that was needed. A decoder will be added. 10 meter is working OK at home but has feedback at the site

so copper bonding will be added to reduce the RF feedback. Coaxial cables have been the only ground return. On the 440 repeater there is 40 Watts out of the duplexer. It is running good. Jim, K9QLP wants us to start thinking about the want or need for an amplifier for the 220 repeater. Maybe we'd get more usage.

**OZARES:** – Net tomorrow Thursday. Storm Spotters Class canceled due to death in Rusty Kapela's family. Meeting will be the 4th Thursday as usual.

**Scholarship Fund:** Dave N9QA wants to be relieved of duties on committee. His role is to handle paper work between candidate and club.

**Swapfest Report: Date is May 1** as of the meeting 35 tables out of 95 were sold. (As of newsletter publishing it is better – more than 60 are sold.) Numbers are down, Grays Lake was down too. Is this a trend? Do we want to pay for another year? It could be a financial problem. Nels WA9JOB motioned and recommended to pay for another year. It has served the club well and we do not want to lose that weekend at Circle B. Tom W9IPR seconded this motion. Reminder for members, **we need help for set up, ticket takers, and cleanup.**

Friday night – 6:00 PM set up of tables and numbering – also, early vendors will come in  
Saturday - 6:00 AM set up for most vendors  
8:00 AM general public comes in  
Testing - License testing available after 9:00 AM  
Noon or 1 PM start cleanup, take out trash etc.

Gary WI9M will run the testing, Leon K9GCF will help with talk-ins. There is a scholarship table for selling. A club table is available for selling items if you only have a few things you want to sell. Prizes will be given. If any club member has any or can get some it is appreciated. Ray W9BUJ is donating 2 Battery Minders (\$60 each value) thank you!

**Field Days:** JimKA4UPW reported that it is coming together well. We need HF Band Captain; Captains schedule operators for each position for complete coverage during competition. Goda Station will not be in food tent this year. 10 meters can be expanded. Tents are available for each band position. We could use two more antennas. For 20 meter Yagi would be ideal. Suggestion is that we have a workday some Saturday at Leon's (centrally located) with brats to get hardware tuned up.

**Newsletter:** Turn in all materials for publishing by the 27th of April to Tom W9IPR.

**New Business:** Need spotters June 6 for a run in Washington County, the Bob Cross Walk and Run. Challenge as that is also the weekend for the Miller Ride for the Arts and another event in Waukesha County.

**Discussion:** Jim K9QLP commented regarding the 220 repeater at barn. Dick, K9CAN, doesn't want to use the tube type amplifier he had built for the repeater, because the high voltage shielding was not adequate, or safe. Therefore it is only putting out 6 or 7 watts from the driver stage. Jim said it needs more power to the antenna, possibly a mobile solid state amplifier. Paul KB9WCC suggested using fan but Gregg, W9DHI, said it wouldn't work well because there are hot spots and potential for failure. Stan WB9RQR suggested an ad hoc committee to research it. Gregg W9DHI seconded it so the discussion is tabled until the ad hoc committee can research and study need. Committee appointed is Gregg W9DHI and Jim K9QLP. The purpose is to research amplifier for 220. Nels W9JOB will study the system coverage at higher power levels.

Meeting ended before 9:45.

**Attendance:** Stan WB9RQR, Joseph KB9URC, Leon K9GCF, Ed AA9W, Dave N9UNR, Gregg W9DHI, Carol KC9CBC, Kent W9WH, Peter KB9URH, Joe AA9HR, Jim K9QLP, Nels WA9JOB, Ernie K9LO, Don W9VSC, Ray W9KHH, Gene KB9VJP, Ray W9BUJ, Bob W9LO, Mark N0OKS, Jim N9WIU, Jane KB9SYI, Herb WA9UVK, Tom W9IPR, John KC9FJX, Julia KB9WBQ, Mark AB9CD, Roger W9UVV, Ed AA9WW, Terry KA9RFM, Jake KB9ZOR, Don AA9WP, Paul KB9WCC, Gary W9XT, Chris N9VKC, Brian N9LOO, Tom AA9XK, James KA4UPW, Vic KB9UKE.

## **AGENDA**

*May 12th, 2004*

1. Call to order – Vic (KB9UKE)
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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### **The ORC Newsletter**

465 Beechwood Drive  
Cedarburg WI\* 53012

### **First Class**

## **Next ORC Meeting**

**Grafton Senior Citizens Center**

**1665 7<sup>th</sup> Avenue, Grafton**

**Wednesday, May 12<sup>th</sup>**

**7:30 PM**