



# 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.



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

Volume XXII

November 2003

Number 11

## The Prez Sez

By Vic Shier (KB9UKE)

Installing a mobile rig can be a frustrating experience. We all want a great sounding rig with optimum power output but who wants a car with holes all over and a droopy headliner. The worst part is coming up a better idea after you punched the first hole. Well, Greg W9DHI, gave us many tips on mobile installations at the last meeting. He had suggestions for performance and safety while maintaining a neat and tidy install. He also made an offer that is too good to pass up. Although he won't install them anymore, he is willing to give club members some recommendations before we get started on the next vehicle. Thanks for the tips Greg.

Congratulations to the ORC for another great score for Field Day. The club efforts found us in third place for the 5A category again this year. Second place was taken by CO0US one of the more popular stations on the air during this year's event. CO0US was a joint effort between ARRL members from California and members of the Federacion Radioaficionados De Cuba, operating near Havana and was featured in the Field Day message. K4BFT, the Huntsville ARC, always a worthwhile competitor took first place. Fortunately the poor propagation during Field Day affected everyone not just the ORC. One statistic that should not be overlooked is that we had 29 participants this year, a great all around club effort.

Some important events will be coming up in the next several months and it isn't too early start thinking about them. The annual meeting is always the January meeting at which time the election of officers will be held along with the Ham-of-the-Year and Turkey-of-the-Year awards. You must be a paid member in order

to vote at any meeting and dues are payable on January 1<sup>st</sup> of each year. Changes to the dues structure must be discussed at the November meeting and would then be voted on at the December meeting.

Another important issue is the offer by We Energies to provide space for an antenna and some equipment at the Port Washington site. This is an opportunity that doesn't come knocking often and we want to do it right.

73's and remember...It's a hobby!

## DON'T FORGET - THE SSB SWEEPSTAKES CONTEST Nov. 15-17 !

De Bob Truscott (W9LO)

By the time you read this the Nov. CW SS will be history. Hopefully a whole bunch of you will have worked the contest, and racked up some big scores. But even if you only racked up little bitty scores, please send them to me so we can get them into the next newsletter. [tbsi@hnet.net](mailto:tbsi@hnet.net), or at the next club meeting. You might even earn bragging rights over your buddy who thinks he's better than you are.

The CQ WW Phone DX Contest was a couple weekends ago (Oct 25-26). I didn't participate—didn't intend to because those DX guys talk real funny and real fast, neither of which I can handle. Even though most of them supposedly spoke English, it was their own brand of the language. Even the Brits don't know how to speak it correctly. And when you add speech processing, it really becomes an impossible task for people with old ears to understand them. Then, of course, you have the hotshot operators who talk at about 90 mph—that's like

the CW guys who operate at 45-50 wpm. You might have to question the accuracy of their logs. I listened to several different DX guys working 5-6 stations per minute. That's pretty impressive, but I had to listen to about 10 of their contacts before I could figure out their calls and reports. One DX guy reported 5394 contacts—don't know how many hours he worked, but if he worked the full 40 hours, that averages out to 135 per hour. Now that's really impressive. And one other fella reported that he worked 200 stations in 1 hour. (We need that guy in our Field Day group.) So that's how the big guns do it. But don't let that scare you off—let's all go out and have some fun on Nov. 15-17.

Coming up in November:

Nov. 15-17 ARRL November Sweepstakes-Phone—Rules in Oct. QST, page 107.

Nov. 29-30 CQ WorldWide DX Contest-CW—Rules in Oct. QST, page 100.

Have fun contesting. Bob, W9LO

## Field Day '03 Results

De Leon, KB9GCF

I'm going to share the good news with all of you.....The Ozaukee Radio Club's Field Day competition with the world has netted us great news!

We, the Ozaukee Radio Club, coming from the smallest county in the State of Wisconsin, and operating as W9LO, placed as follows:

#1 in Wisconsin (in our Category of 5 Transmitters)

#1 in the 9th Call Area (of 3 States....WI, IL, IN .in the 5 transmitter Category) We bested all the big clubs in the Milwaukee & Chicago areas!

#3 in the WORLD!! (5 transmitter Category)

WE did it!! Thanks to all that participated in any way or manner. You all deserve all the glory this ranking bestows.

The complete details can be found at:  
[www.arrl.org/contests/results](http://www.arrl.org/contests/results)

Some of the results areas can only be accessed if you are an ARRL member.

## JOTA & LeFROG

On Saturday, October 18<sup>th</sup>, I went out to Ledge Park next to the Horicon Marsh to check out the Jamboree On The Air for scouts and hosted by the LeFROG group of "Ham's". I was really impressed.



The LeFROG set up for JOTA. HF through UHF and APRS in five different shacks. Same setup as used for field day including the "renovated" Channel 6 mobil system



Bill Howe, KA9WRL, is tuning 20 meters in anticipation of facilitating "scout to scout" QSO's throughout the weekend.



LeFrog members took advantage of the event attendance and conducted a 90-minute computer logic training session whenever they could get 3 or 4 scouts to set down at the Heathkit Logic Trainers

What a great way to help scouts earn their communications merit badge and perhaps get them interested in "ham" radio. As with several others in the ORC it was an Elmer taking the time to get me interested "ham radio" that led to my career in engineering. Why not an ORC JOTA in October 2004?

## THE MILWAUKEE RADIO AMATEURS' CLUB'S FM SIMPLEX CONTEST

De Sherm, KB9Q

The FM Simplex Contest Committee of The Milwaukee Radio Amateurs' Club has completed fine tuning of the rules for their February 8, 2004 FM simplex contest. Among the changes for this year are additional time for the two meter segment, band QSO points that better reflect the number of operators on each band, and a perpetual plaque immortalizing the winning club entry now on display at AES! Take a look the next time you are at the Candy Store.

Like most contests, the FM Simplex Contest is designed to be fun. It is still in sprint format, lasting just two hours and fifteen minutes and

covers the four lowest VHF/UHF bands. The true goal, however, is to develop operator skill in working simplex (no repeaters) and to promote development of station equipment capable of operating on multiple bands. This capability is valuable in support of a primary purpose for amateur radio; to provide communications when normal means of communications are disrupted. Under these conditions, it is likely that simplex will be the primary mode available, as repeaters may suffer the same disruption as normal communications channels. The contest is also constructed to give Technician licensed operators an introduction to the format used in VHF and UHF contests.

So, consider organizing your club for the local competition and getting its name on the award plaque! Feel free to contact me for copies of next year's rules via E-mail [swanson@ticon.net](mailto:swanson@ticon.net) or snailmail from my KB9Q callbook address. It is also be available on The MRAC web site, <http://www.qsl.net/mrac/index.html>.

## Upcoming Events

Nov. 12 – ORC Meeting

Nov. 15, 16 & 17 – ARRL SSB Sweepstakes

Nov. 29 & 30 – CQ CW DX Contest

## For Sale, Trade or ?

HP Inkjet 923C printer complete with CD. \$50  
Contact Sus (KB9OC) @ 414-466-4350 or [SUSMU@MSN.COM](mailto:SUSMU@MSN.COM)

Realistic (Radio Shack by ICOM) HTX-404 UHF (440 MC.) HT - \$70 – Contact Tom (W9IPR) @ 262-377-6945.

A complete Kenwood HF station – Contact Don Belstner, W9VSC @ 262-377-0426

ICOM 2-AT 2 Meter HT (With PL Deck for 127.3) Includes 12 v DC car adapter plus batteries and Wall Wart Charger

ICOM 04-AT 440 HT Programmable from keypad, includes PL. Contact Jim, K9QLP @ 262-375-3668 with reasonable offer. Also, 5 years of QST for the asking.

Help removing a TA-33 tribander from a 38' tower and raising a replacement TA-53 – Contact Tom, W9IPR at 262-377-6935

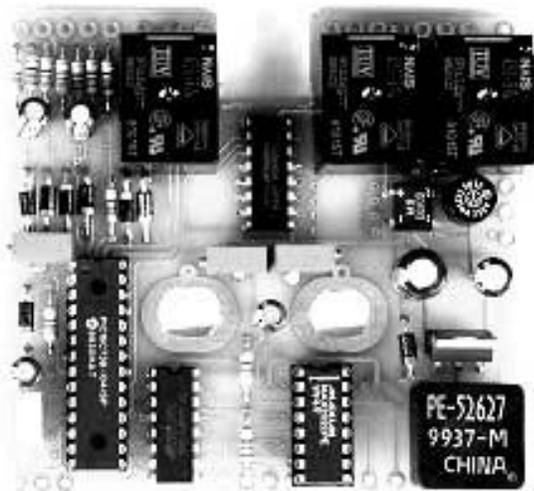
## ORC Computer Course

This will be your last chance to sign up for the ORC Computer Course, starting 19 November. Students will explore all the hardware inside a computer case - how it works, how to repair or replace it, optimization, and even viruses and how to detect and kill them. Eight evening sessions, time and dates flexible by class negotiation after 19Nov. Costs are for a book (which you must get and keep) and a few floppy disks. Otherwise, the course is free. More details in the last newsletter. Only two slots left (maximum, 6 students). The only way to sign up is to contact Stan, WB9RQR, 262-284-9346.

## Rotor-EZ Kit

De Gregg Lengling, W9DHI

Have you ever been plagued trying to turn you rotor to a station, log, and try to contact a station all at the same time. Holding down the brake, holding down the directional control and watching the Dial to see when you are at the proper orientation. Well you really don't have to anymore.



Idiom Press (<http://www.idiompres.com>) offers a kit that adds a computerized control board to your existing Ham rotor. If you have a Ham-II, Ham-III, Ham IV or any Tail Twister rotor you can now have Hands Free Rotor Control plus control via RS232 from your computer-logging program.

The kit takes about 1 hour to build the board and maybe another hour or so to install it in your existing rotor control box. The existing board on your meter is replaced with the new board and 4 LED's are added to box to show the operation. 3 are Red LED's that show action (brake release, CCW and CW) and the fourth is a multicolor LED that shows power, operation and changes color as it gets close to the final position. Once the board is installed and calibrated you can still operate normally, however there is now a 5 second delay after releasing the brake control before the brake re-energizes.

In automatic operation you use the calibration control to move the meter pointer to the desired direction and then press the brake release control for a second and the operation starts automatically. The control operates the rotor to the desired indicated position and stops about 3 degrees before the final location to allow for coasting. Five seconds later the brake re-engages. If you set up the free-up option, the rotor starts to move in the opposite direction for a degree or so before heading in the proper direction to free up the rotor, in case it has become stuck.

In RS232 mode you can control the rotor with a simple program or with many available logging programs that integrate and look up the logged call's location or a location that you input. (Many of these programs are free shareware programs.) For those of you using DX spotting programs this allows for instant rotation to the DX station's location.

The only bad thing I can say about the kit, is that the instructions while being pretty concise leave a little bit to the builder and aren't up to the standards of the old Heathkit manuals or

the newer Elecraft manuals. Either way I give this kit a 2 Thumbs Up.

For reviews on this kit or any other Amateur Radio product go to <http://www.eham.net/reviews/>.

## ARRL BPL Contribution

Dear Friends,

On behalf of the American Radio Relay League, thank you so much for your kind contribution in support of ARRL's special Spectrum Defense campaign against Broadband Over Power Line. Your recent donation of \$50 -- added to the more than 5400 contributions -- will give ARRL a powerful voice in official Washington. You can be sure that ARRL leadership and staff are working to defeat BPL - the most devastating threat to Amateur Radio in decades. Your organization's leadership is deeply appreciated.

73,

Mary M. Hobart, K1MMH

Chief Development Officer, ARRL

## SET Exercise Completed

De Jon Gilmore, KB9RHZ

On Saturday, October 25, seventeen hams participated in an exercise to test the ability of the ARES/RACES groups to carry out communications in an emergency in the six southeastern counties, including Ozaukee County. Three repeaters (146.91, 145.13, and 146.82) were used as well as simplex frequencies. As is the case in most exercises, there were some problems, but what was learned was very valuable. It became clear that communications in an emergency could be carried out in the SE using repeaters, but simplex operations are affected by terrain and distance.

Communications were also tested in Ozaukee County on simplex. The results were mixed as some areas of the county were totally inaccessible on simplex and other areas were no problem even though the distances were greater.

Terrain seemed to be the limiting factor. Fortunately, the 147.33 repeater has emergency power backup and can be heard through the county except right along certain parts of the lakeshore.

ORC hams that participated were KA9DDN, K9GCF, W9IPR, W19M, KA9PZG, KB9RHZ, WB9RQR, N9SQA, N9UNR, KB9URH, AA9W, KB9WBQ, N9WH, AA9XK, AND N9XRU.

In the next few months more training will take place testing communications and message handling. OZARES is always looking for more hams to participate. Meetings are normally at 7:00 p.m. on the fourth Thursday of the month in the Justice Center.

## Next Meeting – Nov. 12th

De Leon, K9GCF

"VHF-UHF weak signal operating excitement" It is to be given by Ken Boston, W9GA, a notable con-tester. Ken works for L. S. Compliance, Inc., an EMC testing and consultation lab, right here in Cedarburg. Ken's the lab manager, so has a lot of RF experience.

## Just Another Shack

De Todd Sprinkmann (KC9BQA)

This month's shack visit is with Don Belstner - W9VSC. Don was introduced to ham radio in a somewhat unusual way. While teaching his algebra class at Cedarburg High School in the mid-1950's, he noticed a student had a ham radio study book tucked inside his algebra text. That student was Gus Wirth - W9BTN.

From this, the ham radio bug hit Don and he got his novice ticket - WN9VSC. A Cedarburg High School ham radio station - K9KKW -- soon followed. Don was trustee of the station and he knows of at least a half dozen students who became hams via the CHS station.

When Don first got on the air in the mid-late 50's, 6 meters was alive and hopping. Don recalled his first DX was a Texas station he worked during his lunch break. Don says he worked 23 states, Alaska and Canada - along with ships at sea on 6 meters in those days. This was done with an Army surplus transmitter (tone-modulated) and a 3-element beam.

Don had a Hallicrafters for some time after that Army surplus rig. He recalls being inactive for a number of years and then having his interest rekindled by his son, John - W9EN. John and Don got a pair of HT's and they were active on 2-meter repeaters. This was back in the 70's.

Nowadays, Don has a Kenwood TS-520 for HF but he isn't very active on the bands. When on HF, Don uses a center-fed trap dipole for 10-80 meters. In the past, Don has enjoyed 20, 40 and 80 meters. He has collected a variety of Special Events wallpaper. One event that stands out to him was working the Flying Fortress.



Don Belstner, W9VSC, at the Mic in his basement corner shack

Don also has used 40 meters to keep in touch with his son John, especially when John lived in Virginia. Don also enjoyed checking into an Arkansas 80 meter net, because they vacationed there.

He was active in Cedarburg Emergency Government for 10 years. He recalls being in a communications van when a big windstorm hit in 1991. As the van rocked and rolled, Don was T-H-I-S close to bailing out for the ditch.

Don will be married to Katherine for 54 years next month. In addition to their son John, they have a son, Dennis.

Don is an avid skeet and pistol shooter. He got a laugh out of me as he relayed that their weekly shooting group meets at Gary Cooper time - High Noon.

## Club Static & Comments

When buying emergency generators at swap meets that are a very good buy, make sure they have both the DC and AC output as advertised.

## Keyers, Keyers, Keyers

By Gary Sutcliffe, W9XT

From my earliest days in Ham Radio I have had an interest in keyers, starting with CW keyers and continuing to voice keyers. This interest has evolved from a user of a number of keyers, building my own from kits or schematics, to designing my own. Eventually things got totally out of control and I now have a small side business manufacturing and selling keyers of various types ([www.qth.com/w9xt](http://www.qth.com/w9xt)).

In the first days of Morse, everything was sent with a straight key, and many hams still use them. It is probably best to learn CW with a straight key before moving to other ways. As code speed goes up, it becomes more difficult to send the dits fast enough. The bug was invented to help with this problem.

Bugs are still in use and are sometimes seen at hamfests. Basically, they are a mechanical device. Press the paddle to the right and a shaft with a weight vibrates causing alternating contact and non-contact, forming the dits. The speed the dits are made is adjustable by loosening a setscrew and sliding the weight forward or back. The dahs are made manually by moving the paddle to the left.

Because adjusting the dit speed on a bug is somewhat of a pain, some operators just set them for the maximum code speed they are comfortable with, and manually slow down the dahs. At the extreme, this is difficult to copy and irritating. You hear "Daaaaaaaah Brrrrr". It is hard to discern how many dits are sent.

Because the bug is difficult to adjust, and dahs have to be made manually, an alternative was developed: the electronic keyer. The first reference I have found for an electronic keyer is a February 1953 article in *QST* for a CW keyer built with 12AU7 tubes. I have not been able to find a copy of the article, so I don't know what its features were, but it was probably about as complex as a decent receiver of those days.

Keyers really took off in the late 1960's when units based on logic ICs were introduced. Today most CW keyers use programmed microprocessors.

A keyer sends dits when you press one paddle and dahs when you press the other. The speed is adjustable with a pot, and the dits and dahs are always (well, almost always) sent in the standard 1:3 time ratio. Early keyer paddles were based on modified bugs. The dit side was changed so that it did not mechanically oscillate, but just made contact when the paddle was moved that way, just like the dah side. Electronics in the keyer then generated the dits and dahs, and key the transmitter.

Holding down the dit paddle produces a string of dits for as long as it is held down. Similarly, holding down the dah key produces a string of dahs.

A newer development is the "iambic" keyer. The first keyers with the modified bug paddle required a fair amount of movement to send characters with alternating dits and dahs. To send the letter C (-.-.) requires pressing and releasing the dah key, pressing and releasing the dit key, pressing and releasing the dah key, and pressing and releasing the dit key a final time.

If you press both paddles of an iambic keyer, the keyer will produce alternating dits and dahs. This reduces the movements needed to produce the C to press and hold the dah key, press and hold the dit key, release the dah key, and finally release the dit key. In addition you can insert dits or dahs. Sending Q (- - .-) requires pressing and holding the dah paddle, pressing and releasing the dit paddle, and finally releasing the dah paddle.

The iambic keying method allows faster sending with less effort than with straight paddles. Most keyers and key paddles sold today are iambic. When you learn one method, it is difficult to change over to the other, at least that is my experience. My first exposure to electronic keyers was a straight paddle unit at my high school club station in the early 1970's, and that is what I learned on. Even though I have been using iambic paddles and keyers for at least the last 20 years, I still need to think about it to send iambically. Fortunately if you like the straight paddle paradigm, you can still easily use an iambic keyer.

Another keying difference is known as mode A and mode B. I don't know the beginning of the two modes, but suspect it was just differences in timing between different models out on the market. Curtis, a major player in early electronic keyers, came out with a single IC keyer with two operating modes, A & B. The difference has to do with the timing to recognize when a paddle was pressed.

Say you want to send N (- .) You press and release the dah paddle followed by the dit paddle. With mode A, the dit will not be registered until the first dah is complete. With mode B, you can press and release both the dah and dit keys before the dah is completed, and the full letter N will still be sent. This may not sound like a big deal, but let me assure you that if you are used to one way, sending on the other mode can be a trying experience!

Some keyers allow you to change the relative times of the dits and dahs. Standard Morse has the dahs three times the length of a dit. Some operators like to change the dah width to more or less than the standard. This is changing the "weight".

For most people, the thumb is used for the dit key, and the index finger is used to send dahs. Of course the side of the paddle is different for right and left handed operators. I have also run into operators who got their first keyer and didn't know what the standard was. They guessed wrong when they wired up the paddle and

started to practice with it. Even though they are right handed, they send on a left hand wired paddle. Many keyers on the market today allow you to electronically flip the paddle sides. That is a great help at Field Day when you relieve an operator who uses the other hand for sending.

Actually, learning to send with the opposite hand is not all that difficult. Just remember that you want your thumb to send the same elements as it does with the other hand. In the early 1990s I learned to send left handed. In contests I could write in the log with the right hand while sending with the left. Computer logging and sending removed the need for that so I don't send left handed much any more.

Contesters are always looking for an operating or technical advantage to give them an edge in a contest. They send CQ's and exchanges over and over. A mechanical system to handle that is an advantage. Some early contesters constructed devices like a clear plastic wheel driven by a timing motor. Black marks were put on the wheel to form Morse letters. A lamp and photo-detector circuit turned a relay on and off to key the transmitter.

In the early 1970s the first memory keyers started to appear. With a memory keyer you can program in a message and play it back with the press of a key. I was in college in 1974 and decided I needed a memory keyer for contesting. I don't remember if memory keyers were not available commercially back then, or if I just could not afford one, but I decided to build a memory add-on to the keyer I had built from scratch with a half-dozen TTL chips. I bought some memory chips at a Hamfest for the amazing price of \$2.50 each, just under a penny a bit. At those prices that 128MB memory card in your PC that you paid about twenty-five bucks for would cost about \$11,500,000!

Fortunately I didn't need all that much memory, and a few chips with 256 bits did the job. One disadvantage with those early chips is that I needed +5V, -5V, +12V, and -9V to run them. That was really a pain, but it did work well.

If you are buying a memory keyer, look for one

that has non-volatile memory storage. With this type of memory, the messages you store will not be lost when you turn off the power.

Another new method of sending CW is with the PC. There are programs available for sending CW by typing with a keyboard. Many contest-logging programs have built in keyers either for hooking a paddle up to some printer port pins or for sending stored message strings.

The interface from the PC to the transmitter is generally done with a special cable connected to a printer or serial port. Many new radios also have CW keyers built in. Although the need for stand alone keyers is probably shrinking due to these alternatives, some of the built-in keyers have limited features, and having to carry a PC along to send CW defeats the purpose of the small portable radios in the field.

Samuel Morse patented the telegraph in 1837. The patent application included the famous dot and dash code he developed. I wonder what Morse would think if he knew of all the computer power being used today to produce a 160+ year old code.

Like their CW counter parts, phone contesters have developed keyers to handle their repetitive transmissions. Early voice keyers were made from tape loops on reel to reel tape decks. You either had to wait for the tape to get around to the start or your CQ would start in the middle. Obviously a better solution was needed. Next month we will discuss voice keyers.

## Public Service Minutes Oct. 12, 2003

De Carol Szudrowitz, KB9CBC

Meeting was opened at 7:35 PM

Tom W9IPR announced that he would be going to the JOTA radio experience with his camper and anyone interested could stay with him. He will investigate possibility of interesting Scouts in our area about joining this program next year.

Donation Procedures

Vic KB9UKE informed the club that he and Ed AA9W discussed donation procedures. More recognition

needs to be given to increase donations (talk it up it can be a tax deduction) and to publicize the availability of items. The re-mailer is the most efficient method for this. Let Ed know if you need "snail mail". We will also hold items for awhile and if two club members or others want it, we will set up a bidding procedure similar to an auction.

#### Motion Discussion

The motion regarding the \$150 donation from Fish Day was discussed. Treasurer Tom AA9XK presented a graph plotting club funds from 2002 to 2003. The Repeater Fund is stagnant. Money has not been put in from Swapfest. The General Fund is also lagging. A discussion offered suggestions. Scholarship is not accessible for other uses and it is healthy at this time. The General Fund is accessible. The Repeater Fund is important as that determines radio transmissions. We are also looking at a new location with We Energies. Greg, W9DHI called the question and Jerry KB9IMH seconded it. It was voted in the affirmative to vote on the question. Should the Fish Day donation be put into the Scholarship Fund? Vote showed one yeas and rest against it. Should it be put into the General Fund? The yeas carried it.

#### Treasurer's Report

The Treasurer's Report was accepted as printed. Program

Greg W9DHI presented an informative and interesting program on the installation of antennas in automobiles. Laws in England determine placement on the roof. We seem to be more creative but the top is the best for reception. Of course not if you have a sunroof! It can be dangerous on glass. The RF 's can get in the car. Trunk lid is a secondary spot. Run cables down the driver's side inside the car. Other side is reserved for car computer stuff. Mag mounts are temporary solutions and they scratch the paint. There is not a significant difference in trade-in cost if antenna is permanently mounted.

When mounting the radio inside the car, research these areas; 1) air bag locations, 2) obstructions to passenger etc., 3) location so it is reachable, 4) before drilling check area for wiring.

#### Stan WB9RQR's Auction

#### Repeater Report

Ten-meter link is now set up. 29.6 MHz. FM link can go down to 29.48 MHz. by remote control.

The 2-meter repeater is doing well. One remote site has a hum and will be taken care of. Voting is working pretty well, but still needs some fine-tuning. The 440 is working well, but sees little use. Plans for the 220 and 7K programmer include interfacing so both repeaters will be together for the Tuesday nets and emergency nets.

In some cases, if the 2 meter, 10 meter and 220 are up at same time, than the 2 meter repeater makes all kinds of noise. This is probably from one of the link receivers. Hard to document when it happens as I am 15 to 18 minutes away from the repeater site.

#### OZARES Report

Antennas on the justice center are adjusted and OK. October 23 is next meeting. November is the EC Conference in Appleton and John Stolte is a speaker.

#### Scholarship Fund

Ed AA9W has some big hitters. More donations are available. Dealers are interested in some of the things so let him know by e-mail if you are interested. Information will be released to public next week.

#### Swap Fest

Gene KB9VJP said that the first table for Swapfest 2004 has been sold.

#### Old Business

Greg W9DHI reminded club about radio kit building class. Cost is about \$28.50 per person. Roland KB9TMB and his son want to do one together. Team kits are available. Limit people to 10 kits so he and Stan WB9RQR can handle it. It will be a good winter project after Thanksgiving. It will take 2 to 3 meetings. Let Greg know by next meeting.

Meeting adjourned at 9:30 PM.

#### Attendance:

Stan WB9RQR, Jon KB9RHZ, Ed AA9GT, Kent N9WH, Jim N9WIU, Dave N9UNR, Ed AA9W, Nels WA9JOB, Gabe W19GC, Dick K9CAN, Joe AA9HR, Bernie AA9CI, Herb WA9UVK, Ray W9BUJ, Ron W9BCK, Bob W9LO, Bob WQ9N, Gary W9XT, Fred W9FH, Roger W9UVV, Terry KA9RFM, Paul KD9FM, Mark AB9CD, Gay KA9OBR, Sky N9XRU, Brian N9LOO, Tom AA9XK, Paul KB9WCC, Mike WJ9O, Tom W9IPR, Jake KB9ZOR, Ed AA9WW, Carol KC9CBC, Gerald KB9IMH, Gene KB9VJP, Jane KB9SYI, Leon K9GCF Jim KA4UPW, Gregg W9DHI.

## AGENDA

*November 12, 2003*

1. Call to order.
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, Nov. 12<sup>th</sup>

7:30 PM