



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 XXI

December 2002

Number 12

The Prez Sez

By Leon Rediske K9GCF

Seasons Greetings ORC Members, & others:

Now is the time of the year to let those AES catalogues lay around with your dream radio circled boldly! Sometimes one must NOT be subtle about what we are wishing for!

I can emphasize with you all, for my mobile is working intermittently, and I need to fix it or toss it. Aren't those intermittents a devil of a time to find? Santa are you listening?

This time of year one needs to think of ORC officer material for next year, the up coming PEP (Post Everything Party) party Feb. 15, 2003, and making arrangements for Dayton 2003. Now the tradition of the PEP is that it is Post Everything.....after Christmas, New Years, Valentines day, post everything.....

Also tradition has it, that we bring wrapped gifts, of nearly anything radio imaginable. Some things are useable, some are not. For instance, last year I received a new shrink-wrapped version of DOS 5.0.....Many use the PEP as an early version of spring shack cleaning!! Sure is fun to wander around that night and see what gems everybody has received. It is also at the PEP where the awards go out to the ham of the year, turkey of the year, and several tongue in cheek awards as well. It is also a night where we treat our spouses to a wonderful dining meal, put on by the ladies of the local VFW.

Kudos to Jim KA4UPW, for his fine presentation at the November meeting on his newly constructed Flag Pole antenna. His antenna answers the question of outside antennas to those of us that have real estate covenants and regula-

tions. Jim's antenna shows his great skill in engineering a great antenna that meets the needs of the real estate covenants, and radiating a good signal as well.

As Jim has pointed out, a disguised antenna works as well as one that can be identified as an antenna. Years past, I have used the metal rain gutters on both sides of my house.....fed it with twin lead through a tuner.....like a wide spaced dipole.....and it worked remarkably well. For those with plastic rain gutters, lay your antenna wire in the gutters, or better yet, tie-wrap it to the gutter supports. Hmmm, maybe this is an answer to the ice back up over my gutters last winter. Anybody have a huge HF RF amplifier.....that I can use to melt the ice...? Rolly Hollingsworth.....I'm joking.....I'm joking.....

73's for now, and see you all at the December 11, ORC meeting, 7:30 PM,



Did Gabe really buy all that stuff or is he just sharing someone else's load?

Upcoming Events

01/04/03 – WARAC Swapfest–Waukesha Expo

02/15/03 – Post Everything Party

For Sale, Trade or Free

Kenwood Desk Microphone **MC-50** - **SOLD**

Cushcraft A3S **beam antenna** with a **40 meter** kit and a BN-86 **Balun** - \$300

Universal 30 ft. free standing crank up **tower** with rotor mounting plate - \$300

Hustler G6-144B 2 meter ant. – **6 dB gain** - \$60

Yaesu antenna **rotor** model G800 SDX - \$200

Contact AA9GT (Ed Seigworth) at **377-8929**

Contesting

De: W9LO Bob Truscott

Last month's column reported that K9CAN had 471 "SOS" in the ARRL DX Phone Contest. In case anyone wondered about that, "SOS" is what the computer's spell checker, in its infinite wisdom, decided to call "QSO's". It must have been Tom's computer—mine's a lot smarter than that. (Can you imagine Dick sending SOS 471 times? With a 5 kW rig, once should have been sufficient..)

The Field Day results are in. Some people see FD as an emergency preparedness exercise, public service training event, and all those good sounding names, but I see it as the biggest "fun" event of the year, and the number one contest of the year. Regardless of how each of you perceive it, the results were great. We were first in the 5 TX category in Wisconsin and in the 9th call area, and 3rd in the country. Not bad, considering the great time we all had doing it. And, with a little contesting effort by each of us between now and next June, we can improve upon that. Wouldn't it be nice to be number 1 instead of

number 3 in the country. We'd have really big bragging rights then.

Reported Scores:

CQ WW DX Contest–W9XT 839 QSO's, 136 countries. All on 10 meters.

ARRL Nov. SS-CW:

W9LO -794 QSO's, 76 sections

WI9M-560 QSO's, 78 sections

W9XT-360 QSO's, ??sections

KB9UKE- 296 QSO's, 69 sections

W9KHH-250 QSO's, 71 sections

ARRL Nov. SS-SSB

W9LO- 160 QSO's, very few sections

No other scores reported.

Upcoming Contests:

Dec. 6-8 ARRL 160 Meter Contest–CW only.

See Nov. QST, page 114

Dec. 14-15 ARRL 10 Meter Contest-SSB, CW & AM. See Nov. QST, page 114.

Have fun contesting.

And the winner is



Julie Nawrot, KB9WBQ, shown here demonstrating her unique HT holder, made from a bookend and a napkin holder, and accepting her cash prize from President Leon .

And the nominations are:

Per our by-laws, we must elect our slate of officers at the January business meeting and that is about upon us. The nominating committee, comprised of chairman Jim Albrinck (K9QLP), Jon Gilmore (KB9RHZ), Dave Barrow III (N9UNR) and Tom Ruhlmann (W9IPR) have attempted to canvas the membership and present the following preliminary list of members for election at the January 8th, 2003 meeting.

President: Gary Sharbuno (WI9M)

Vic Shier (KB9UKE)

Vice President: Mike Matthies (WJ9O)

Repeater VP: Nels Harvey (WA9JOB)

Treasurer: Gabe Chido (WI9GC)

Tom Nawrot (AA9XK)

Secretary: Carol Szudrowitz (KC9CBC)

Nominations from the floor are also welcome at the January meeting.

Automatic members of the 2003 Board of Directors are the immediate Past President Leon Rediske (K9GCF) and Repeater Trustee Ed Rate (AA9W)

Just Another Shack

De Todd Sprinkelman KC9BQA

This month's shack visit is with Bob Truscott, W9LO. Bob is a Charter Member of ORC and he has kept his membership continuous, even though he lived for some years outside Wisconsin.

Bob was raised in Council Bluffs, Iowa. He got his ham license in 1947 and has held the call-signs W0EJA and W9NYJ in addition to his current call. An interesting thing about Bob is that he actually learned CW in the Civil Air Patrol, in high school, during WWII. This led to a stint in the Army Air Forces Radio School. There, Bob sat with others and received instruction in CW 8 hours a day. Yes... EIGHT hours a day. Bob told me he must have had an affinity for CW because many others simply washed out of the program. It was after Bob left the Army that he got his ham ticket in 1947.

Bob is a radio and TV broadcast engineer by trade. He obtained a 2-year degree when TV was in its infancy and this led to a variety of jobs. Bob moved to Wisconsin in 1954 and helped get Channel 12 on the air. Channel 12's original call-sign was WTVW. It was changed to WISN shortly after 1954.



Bob is shown here operating CW at his FT1000MP. Not shown are his trustworthy Drake transmitter and receiver

Bob became Channel 6's first Chief Engineer and he worked from 1956-1981 at WITI. Bob retired from full-time employment in 1992 but he continues to work as an engineering consultant for low-power TV stations.

As mentioned before, Bob has been a ham since 1947. His current rig is an FT-1000 Mark V. He works all HF bands from 160 through 10M, using a variety of wire dipoles. By far, Bob's favorite mode is CW and he especially enjoys contesting. Bob's favorite activities are Field Day and the November Sweepstakes.

Some of Bob's radio memories are that he used to do a lot of home-brew transmitter work in his

younger days. Apparently a few of his projects used to produce strange unexplained clicking noises when they were used near other transmitters at Field Day. Another memory of Bob's was operating CW mobile. His wife, whose father was a "ham", had some reservations about this, but Bob always did just fine driving and sending at the same time.

Bob also used to play checkers on CW with W9BCK. This was back in the 1950's. He explained that this worked by numbering each of the squares on the checkerboard and then simply sending two numbers to signify a move. The first number referred to the square where the piece was located and the second designated where to move the piece.

Nowadays, Bob can be found both in the ORC newsletter and as part of the ORC Field Day crew. Of course, we all appreciate Bob's contribution to the Contesting column in the newsletter. This summer, Bob was at Field Day operating 40M CW from a trusty canvas tent. His Mark V sat on a picnic table, next to a computer monitor. As did a dusty old stuffed turkey. Together, Bob and that turkey made hundreds of QSO's on CW.

Upgrade to General?

G9D01 Which of the following factors help determine the characteristic impedance of a parallel-conductor antenna feed-line?

- A. The distance between the centers of the conductors and the radius of the conductors.
- B. The distance between the centers of the conductors and the length of the line
- C. The radius of the conductors and the frequency of the signal.
- D. The frequency of the signal and the length of the line.

Ans. – A. The characteristic impedance of a parallel-conductor feed line depends on the distance between the conductor centers and the radius of the conductors.

G9D02 What is the typical characteristic impedance of coaxial cables used for antenna feedlines at amateur stations?

- A. 25 and 30 ohms
- B. 50 and 75 ohms
- C. 80 and 100 ohms
- D. 500 and 750 ohms

Ans. – B Common /coaxial cables used as antenna feed lines have characteristic impedance's of 50 or 75 ohms.

No. 103 - How Do You Get the Labels Off?

I have been asked this by many hams over the years, and thought the answer(s) would be worth sharing, even though it is a rather mundane topic. Basically, how do you get old labels off of floppy disks? The answer applies not only to floppies, but also to pill bottles, household cleaning containers and most any kind of plastic, glass or metal container that a ham might want to use. My approach comes from a lot of personal experimenting, but also from consultation with an engineer whose job it was to design the "sticky" in sticky labels. He and I were having dinner together after judging the state Science Fair, and when I found out what he did for a living, dinner conversation consisted of me pumping him about sticky stuff!

The best way, of course, is to simply peel off the label in one piece. Many times that will work straight away. However, the engineer gave me one useful tip. The secret is to

(Extracted from and continued in the Badger State State Smoke Signal at www.bsss.org).

Editors note: I encourage you to read the rest of the article. I have found that soaking the container in water for a few days' releases the paper label but the adhesive remains. However, a short squirt of "Gumout" carburetor and choke cleaner makes quick work of the adhesive.

Another Great Program

We had a great program at the November meeting with Jim (KA4UPW) describing how he converted a "Sams Club" flagpole into a tuned all band vertical. He even layed 128 radials on the ground and let the grass grow around them to make them "mower proof". Wish I had thought of that.



Jim Hilins tells how he constructed his "flagpole vertical" using the extra few feet from the "Sams Club flagpole"

WHY QRP?

By Mike Greenfield N9JIY

I tried to come up with the Top 10 reasons for operating QRP (Low Transmit Power), rather than QRO (High Transmit Power), but could think of only 4, but they're pretty good ones! HOWEVER, before we begin, you need to know that QRP is defined as 5W or less transmit power available at the transmitter antenna connection. I don't know why. It just is. There's also an informal subclass called QRPP, which means power under 1W out, the "milliwatters". That's not much juice, so be-

fore we go into the reasons for QRP, let me reveal the grand secret that makes QRP and even QRPP possible.

It's this. The S-meter on your rig, AND your own ears are not linear devices. You'd think they'd perceive half as much signal strength as half as loud. They don't! Instead they work as shown in the table below. It begins with 100W of power on the transmit end of a QSO yielding a reading of S-9 on the receiving end. IF that's the case, then... a signal of .1W yields an S-meter reading of S-4

100W	S-9
25W	S-8
6W	S-7
1.5W	S-6
0.4W	S-5
and 0.1W	S-4

So, unless QRN and QRM are pretty bad, an S-6 (1.5W!) signal is just as copiable as an S-9 (100W) signal. Your ear probably won't even hear the difference. Read and weep QRO ops, because if 100W out yields S-7 on the receiving end, you'll need full legal power just to get to S-9.

So, "Because it works" is the #4 reason for QRP. Now moving on...

REASON #3 - QRP keeps kit building and home-brewing simple and low-cost. Final amp stage of most QRP transmitters includes just 1 transistor. Tiny plastic TO-92s (like 2N2222) yield 0.25W out. Metal "top hat" TO-39s (like 2N3053) WITH heat sink give 1-2W out. And flat metal-tabbed TO-220s, again WITH heat sink are worth 4-5W out. Most kits and home-brew projects are CW monoband rigs, again for simplicity.

The simplest, complete, operating QRP station I ever built included just 3 transistors and a LM386 audio amp chip. It looked awful, but worked fine. You can really "get back to the basics" with QRP rigs.

REASON #2 - QRP keeps power supply size manageable. Do you really want to carry a 20A "boat anchor" when you go portable?? Receive draw on some QRP rigs is just 30mA. I don't

know of any "plain-vanilla" rigs that top 100mA on receive. Key down draw can range from just milliamps to about 1A at 12VDC. Wall-wart power is common. Milliwatt rigs will run off 9V transistor batteries. A clip of 8 AA cells will run a 1W rig all afternoon, and a string of D cells, will run a 5W rig for days of casual operating. Some QRP ops charge batteries only with solar power.

FYI: Alkaline AA cells are rated at about 2,000 milliamp hours (mAh) capacity; C cells at 6,000mAh; D cells at 12,000mAh. D cells give absolutely the most bang-for-the-buck.

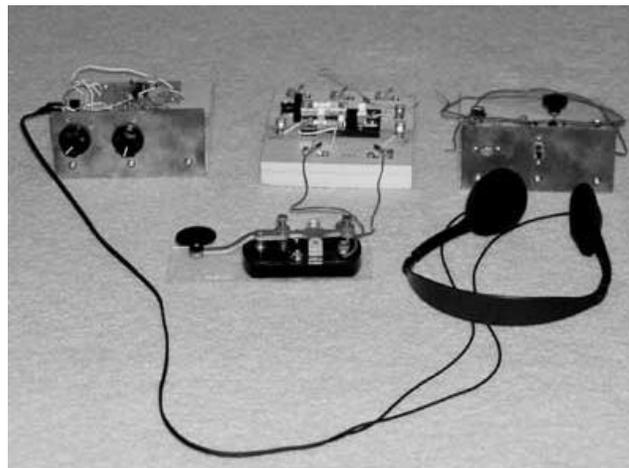
NOTE: A holder for 9 cells (made out of PVC pipe?) will give 13.5VDC like an AC power supply, instead of just 12VDC from 8 cells. Better!

Many commercial QRO rigs can be turned down to transmit at QRP levels, and this cuts transmit power required a lot. BUT displays, and micro-processors in these rigs put receive power draw over 1A on many of them. Still, compare the size/weight/cost of 20 vs. 5 Amp power supplies. A 5 Amp supply will run most rigs at 25W, and most receiving stations can't hear the difference between 100W and 25W anyway.

AND NOW.....

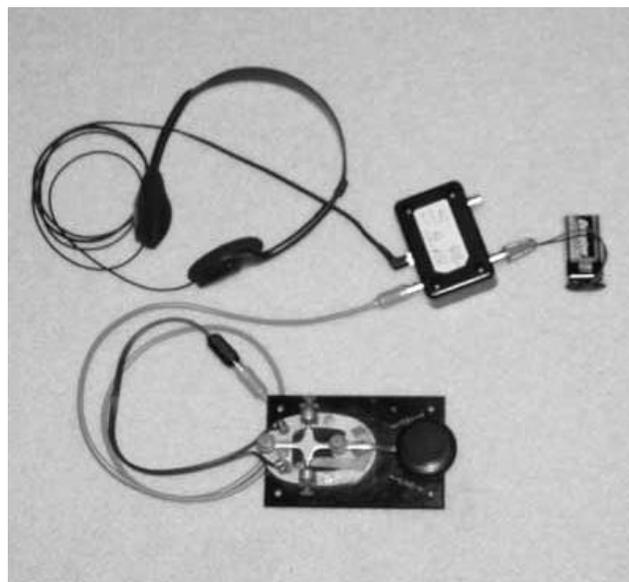
REASON #1 - QRP operation impresses chicks! It's like riding a bicycle no-hands, slam-dunking the round ball, or fishing with flies you tied yourself. You don't HAVE to do it, but you're GOOD enough too. Yes, friends, there's joy in the heart when you've gotten a 579 report from an op running 200W from his new mega-function "Yaeken EX3000 pro", and you "confess" you're running just 1W from some little thing you tossed together in an evening. Also, there are many awards available only to QRP and QRPP ops. Finally, many fine clubs are devoted to QRP rig design, construction and operation. Some of the best QRP rigs start as club projects, then "go commercial". Yes, among hams, QRP builders and operators are seen as "the most coolest".

QRP RIGS? "Real" ops build their own stuff.



N9JIY's home-brew CW RCVR on the left and transmitter on the right. The unit in the middle is a manual DPDT transmit-receive switch. Minimal investment of dollars and maximum output of thrilling contacts with only 1 watt.

Kits are fine, and there are many kits available,low-cost prize goes to the Pixie2 transceiver (yes transceiver) kit, WITH 80M crystal, under \$11. (see www.halted.com)



The Pixie 2 is shown here with a WWII J38 key, headset and 9 volt battery – only the antenna and operator are missing

My choice for nifty is the Elecraft K1 4-bander. Not cheap. (see www.elecraft.com) Several companies do make "plug 'n play" QRP rigs. And

we said, many-off-the-shelf 100W boxes can be cranked back to QRP transmit levels.



The TenTec 1340 is a single bander transceiver priced at about \$100 and produces 4 watts using a wall wart power supply

Want more info? The QRP world is hip-deep in good web sites. For starters see the QRP links at www.eham.net. A couple of the great "must see" sites are:

Northern Georgia QRP Club (NoGaQRP) at www.qsl.net/nogaqrp
Australian QRP Club at www.alphalink.com.au/~parkerp/qrp.htm

QRP Home Builders Page at www.qrp.pops.net
Northern California QRP Club at www.norcalqrp.com
QRP Amateur Radio Club Intl at www.qrparci.org
and a "private" site with loads of links at www.ac6v.com

Basic Repeater, 103:

De Nels Harvey , WA9JOB

This is the third part of my basic introduction to repeaters.

This is an outline on how a repeater controller functions. I will describe how the ORC repeater controllers function. All of the ORC repeaters use the S-com 5K controllers. In addition, the 146.97 MHz. Repeater uses an S-com 7K controller on its main output.

The 5K controllers accept the audio from the associated receiver, and a COR logic input. The

controller responds to touch tone commands from a received signal.



The 5K Controller, Receiver and Transmitter at Remote Sites

The touch-tones can be received on the main receive channel, or on a separate control receive channel if so equipped. We do not use any control receivers at this time.

The controller permits macros to be written, and programmed internally to itself based on touch-tone entries. There are a number of firmware functions that also can be modified by touch-tones. The transmitter ID is accepted by the firmware, with specific tone digits that determine the CW tone, speed, and callsign. The remote receiver controllers have macros that close a relay whenever it causes the link transmitter to transmit. This turns on a fan intended to cool the transmitter's heatsink. There are macros that permit the control operators to turn on and off the transmitter, and turn on and off sub-audible tone requirements.

The main site S-com Controller, an S-com 7K, has many many more macros programmed in it. The reset beep, weather beep (W), and Net (N), are examples of what is controlled by macros. All of the individual autopatch speedials are macros. One macro for each number. There are macros to control whether any of the four receivers feeding the Hall Voter are on, or off. On the 7K, a macro will cause a cooling fan to come on with any activity, whether it's a received signal, or an ID, and keep the fan on for four minutes after the activity ends and the transmitter is off.

Control functions are written as macros, so control operators can cause certain functions to occur without needing to know the secret password that is imbedded in the macro structure. The macro system employed in the S-com controllers make them the industry leader. The 7K will accept up to 200 macros. I haven't counted, but we are probably using around 150 macros on our system.



The 7K Controller at the Main Site

The 7K controller has the telephone interface module that permits telephone autopatches. The Club maintains a telephone line at the main site that interfaces with the controller so autopatches can be made. This same line is able to receive touch-tones over the phone and send them to the controller, to execute macros and do control functions. Sometimes, the reset beep disappears briefly on the repeater. When the telephone line is called, the controller re-directs the beeps and ID's to the phone line. What justice for those pesky telemarketers!

Next time, I will discuss just what deviation on an FM system really is! That's something W9IPR could use a little more of on these cold mornings.

The Great Parade

A really great time was had by twelve of our members supporting the Grafton Annual Christmas Parade with communications services in the parade assembly area. It was really interesting to learn how all the floats and groups are assembled and then blended into their respective assigned positions as the parade starts. The 1.5 hour parade was enjoyed by hundreds and hundreds, including my grand children, even though the weather was cold and windy.



Shown here are the ORC communicators enjoying a Pizza at Pizza John's after the parade. Clockwise from the left they are Gene (KV9VJP), Ed (AA9W), Nels (WA9JOB), Jim (K9QLP), Gabe (WI9GC), Gary (WI9M), Jon (KB9RHZ) and Carol Ann (KC9CBC). Not shown are Ted (N9LLT), Kevin (N9WCU) and Tom (W9IPR).

Minutes of the November 13, 2002 Ozaukee Radio Club Meeting

By Nels Harvey, WA9JOB, Secretary.

Call to order and introductions:

The meeting was called to order at 7:31 PM at the Grafton Senior Center by President Leon Rediske, K9GCF. Introduction of members and guests was made.

Events and Announcements:

Gary Sutcliffe, W9XT, showed off a CW and Voice recorder, suitable for use in on the air contesting. The model is the VK-64, and to contact him if you would like to get one.

Leon, K9GCF, had some W.A.R. repeater directories available.

Field Day results are in, and Leon reported that we took third place in our class, 5A, overall. We placed first in Wisconsin, and in the 9 calling area. He also heard from Abe, and Marie Galonski, who congratulate the Club on the excellent showing at Field Day.

Leon then encouraged Club members to participate in Phone sweepstakes on the next weekend, November 16 and 17.

Program: James Hilins, KA4UPW, gave an interesting talk on how, and why, he put up a stealth vertical antenna. Essentially, since he now lives in an antenna restricted area, he placed two aluminum flagpoles together, added a tuner at the base, installed an extensive groundplane of 120 radials, and documented the radiation pattern on 20 Meters. He explained some of the design problems that arose, and is generally pleased with the antenna's performance.

After the program, The HT holder contest was concluded. Julia, KB9WBQ, won first prize, Sky, N9XRU, was second, and Nels, WA9JOB, Vic, KB9UKE, Stan, WB9RQR and Bob, WQ9N took honorable mention.

After the contest, Stan held his usual auction.

After the break: The regular business meeting was convened.

Minutes: The minutes of the last meeting were accepted.

Treasurer's report: Gabe, WI9GC, explained why the general treasury advanced money for the Scholarship funding, and assured us the Scholarship fund repaid the general treasury after the CD became due. Dave, N9UNR moved to accept the Treasurer's subject to audit. It was seconded by Gary, WI9M, and passed by voice vote.

Repeater Report Nels, WA9JOB, reported that the Board of Directors voted to no longer pursue the link antenna project on the Channel 18 tower. They also voted to abandon the possible location of a link at the West Bend FM station, WBKV. It was then voted to go ahead with one additional link, to be placed on the County's Belgium tower. All the Club's repeaters are operating normally, except the 224.18 MHz. amplifier is still out of service.

OZARES Report: Jon, KB9RHZ, reminded everyone the November OZARES meeting would be on Thursday, November 21, the third Thursday, because of Thanksgiving. He announced a group was to help with the communications problems on Saturday, the 16th. Jon also has Anderson Power Poles available. These are being promoted as a universal cross-connector for 12 Volt radio equipment.

Stan, WB9RQR, told us of a State wide meeting of the ARES EC's, and he had 80 people attend.

Old Business: The Board of Directors reported it had voted to not affiliate with the VOAD Emergency Man-

agement project. Stan, WB9RQR, moved to send the issue back to the Board as a committee. Tom, W9IPR seconded the motion. The motion failed by hand vote.

After procedural questions from the floor, it was decided to place the decision before the Club as a whole. The motion to not affiliate with VOAD was placed by Nels, WA9JOB, on behalf of the Board. The motion passed, by hand vote.

New Business: There was no new business.

It was announced by Jim, K9QLP that the Grafton Christmas Parade group is in need of our services, on November 30.

Adjournment: The business meeting was adjourned at 9:49 P.M.

Next Meeting: The next meeting will be held on December 11, 2002, at the Grafton Senior Center.

Attendance: Nels, WA9JOB, Bernie, AA9CI, Gabe, WI9GC, Tom, W9IPR, Gene, KB9VJP, Bob, W9LO, Terry, KA9RFM, Ray, W9KHH, Don, W9VSC, Herb, WA9UVK, Paul, KB9WCC, Ed, AA9WW, Ed, AA9W, Jane, KB9SYI, Stan, WB9RQR, Leon, K9GCF, Carol, KC9CBC, Ed, AA9GT, Jake, KB9ZOR, Kent, N9WH, Jon, KB9RHZ, Vic, KB9UKE, Joe, KB9URC, Ben, K9UZ, Jim, K9QLP, Ron, WB7OFC, Gary, W9XT, Julia, KB9WBQ, Tom, AA9XK, Keith, KY9P, Gary, WI9M, Cindy, KA9PZG, Dave, N9UNR, Bob, W5CFB, Jim, KA4UPW, Fred, N9FH, Joe, AA9HR, Brian, N9LOO, Paul, KA9RPR, Bob, WQ9N, Sky, N9XRU, Bob, N9NRK, Joe, KB9URC, and Ray, W9BUJ.

AGENDA

Dec. 11th, 2002

1. Call to order.
2. Introductions.
3. Announcements
4. Program – Using the Packet Cluster and Contesting with the N1MM Software
5. Break
6. Auction
7. Call for acceptance of minutes.
8. Treasurer's report – Gabe Chido (WI9GC).
9. Repeater report – Dave Knaus (N9QA)
10. OZARES report – Jon Gilmore (KB9RHZ).
11. Committee reports – Post Everything Party
- Nominating Committee

12. OLD BUSINESS
 - a.
 - b. Open to the floor.
13. NEW BUSINESS.
 - a.
 - b. Open to the floor.
14. Adjournment.

John's Pizza @ 1401 11th Ave. in Grafton

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The ORC Newsletter

465 Beechwood Drive
Cedarburg WI* 53012

First Class

Next ORC Meeting

Grafton Senior Citizens Center

1665 7th Avenue, Grafton

Wednesday, Dec. 11th

7:30 PM